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Original Articles.

CLINICAL OBSERVATIONS IN PERICARDITIS.*

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Pericarditis is essentially a secondary process occurring in the course of some general infection. The local manifestations may be so slight as to escape observation and the general symptoms to which the local disease may give rise may be obscured by the constitutional disturbance of the primary general infection. It happens, therefore, that the diagnosis of pericarditis is more often made at the autopsy than clinically.

Dry or plastic pericarditis may occur without symptoms, and unless careful auscultation be made daily in the course of rheumatic fever, pneumonia, etc., the chief diagnostic sign, the pericardial friction rub may escape detection.

With effusion, pericarditis may cause an irregular remittent or intermittent type of fever, usually of moderate degree; respiration is often hurried; the pulse frequently quickened and altered in rhythm and quality, and there may be nervous disturbance. However, these same general symptoms may be present as the result of the general infection of which the pericarditis is only a part, and unless careful physical explorations of the heart are made daily or at least often, even this ordinarily easily recognized type may remain undiscovered clinically.

My friend, Dr. Preble, will write under etiology, of the frequency of the disease, and naturally of the different infective types. He will show that the acute disease, as it occurs in pneumonia, is recognized usually in the postmortem room and not clinically.

The following case illustrates this point:

CASE 1.—G. H., male, aged 38, a laborer, was admitted to ward 8, Cook County Hospital, March 13, 1898. The illness began four days before admission with a chill, followed by fever, pain in the left lower chest aggravated by breathing and cough, general bodily aching and discomfort, and headache. The cough increased and he expectorated a tough, blood-stained sputum. There was constipation and loss of appetite. He had used alcohol and tobacco to excess.

On examination it was found that the lower left lobe was consolidated and there was bronchial breathing and moist râles heard over the affected lobe of the lung. It was noted that the cardiac area of dulness was somewhat increased, but no adventitious sounds were heard on auscultation. The urine contained a trace of albumin, and many hyalin and granular casts. The patient was slightly delirious. The temperature was 102 F., the pulse 120, regular and soft; the respirations 44.

The observation on the evening of the day of admission showed a pleuritic friction over both lungs in the mammary region. There was moderate cyanosis. The delirium was more marked. The pulse was quicker and weaker.

The patient died within thirty hours of admission, with the clinical diagnosis of left pleuro-pneumonia, right pleurisy, myocarditis and nephritis.

The autopsy revealed: Left lobar pneumonia; pericarditis, with 100 c.c. of sero-fibrinous fluid and the pericardial layers covered with fibrinous exudate; right cardiac dilatation; acute endocarditis; double fibrinous pleuritis; cloudy swelling of kidney; fatty degeneration of liver and acute splenitis.

In acute rheumatic fever, pericarditis is probably not so fatal as in pneumonia. This type is most often recognized clinically. This has placed rheumatism in the front rank as a cause of pericarditis. Occasionally, and especially in children, the rheumatic infection may be localized entirely in the pericardium, or more often the articular disturbance follows upon the local pericardial infection.

When so beginning, it may be ushered in by all sorts of symptoms.

It may occur suddenly and acutely with precordial pain or post-sternal or epigastric distress, or with dyspnea, in which the respiration may run to 50 or more per minute. In a child the writer has seen the respirations increased to 100 per minute, and this the first symptom or sign. The pulse is usually increased in frequency, but never at the beginning in proportion to the respiratory movements.

Again, the acute process may be ushered in by a few days of premonitory languor, anorexia, constipation, restless sleep, and slight disturbance of temperature, circulation and respiration.

In one case the writer has recently seen, in a boy of 7 years, the premonitory signs last named were, to the attending physician, suggestive of typhoid fever or malaria. Blood examinations excluded both of those infections and then a careful physical exploration of the chest revealed pericarditis with effusion.

When pericarditis occurs in the course of rheumatic fever, the most careful daily scrutiny is often necessary to recognize the onset. If preliminary observations have been made the local infection is usually easily recognized by the appearance of the pericardial friction rub, or by the presence of the effusion. The not unusual hyperpyrexia of rheumatic fever, with the associated delirium or other nervous disturbance, the rapid and often irregular respiration and the rapid heart action, may obscure the general symptoms of the accompanying pericarditis.

* Read in a Symposium on Pericarditis at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section.

Endocarditis is not an infrequent condition in rheumatism with pericarditis, and acute myocarditis may also occur coincidentally. The infection of all three cardiac structures at one and the same time usually manifests itself in very profound general and severe local symptoms. The following case is one of rheumatic pericarditis, beginning, probably, primarily in the pericardium and subsequently in the joints.

CASE 2.—J. G., aged 22, single, American, engineer's helper, was admitted to Cook County Hospital, April 2, 1901. No history of rheumatism in the family. Patient had rheumatism 7 years ago. Typhoid fever 8 years ago and pneumonia when 7 years of age. Contracted gonorrhea, Jan. 5, 1901, and still suffers from it.

About March 12, patient was seized with sharp oppressive pain in the region of the heart, with dyspnea and inability to lie down because of a sense of smothering. Local hot mustard applications modified the pain. The next day the right knee became painful and swollen. Later the left knee, ankles, wrists and the smaller joints of the hands became involved. The pain in the heart region ceased after the first day and did not recur.

In about two weeks he became so much improved that he rose from the bed, but within 24 hours became speedily worse and was obliged to return to the bed and remain there on account of swollen, painful joints.

On admission, pulse 106, respiration 40, temperature 102 F. The skin was covered with sweat, the face flushed, the lips and nails cyanotic. The knees, ankles, wrists and some of the smaller joints of the hands swollen and tender to the touch. Fluctuation easily elicited in the right knee.

The thorax: Respirations rapid and shallow; chest bulging perceptibly in left mammary region; pulsation waves could be seen over the whole precordia, but most marked at the left fourth and fifth ribs. The apex-beat could be felt in the fifth interspace in the nipple line. Dulness extended over the whole precordia, from 2 inches to the right of the sternum to 2 inches to the left of the left nipple and to the level of the second left rib above. The outline of dulness was classical for pericardial effusion, a truncated triangle with the base downward. The dulness was marked in the right fifth interspace, obliterating the usual lung resonance at the angle formed by the liver, heart and lung. The wide extent, too, of dulness to the left, far beyond the normal relations of the apex to the left heart border, was noted. The lines of dulness shifted somewhat with the position of the patient.

On auscultation a to-and-fro friction murmur was heard at the second right rib and at the fifth left rib and the apex of the heart. A loud systolic murmur was heard at the apex, which was transmitted into the left axilla and heard plainly at the angle of the left scapula. A soft diastolic murmur was heard at the second right interspace near the sternum and was transmitted down the sternum. The second pulmonary sound was accented. Resonance was good over the whole left lung, excepting as noted in relation to the heart. There was dulness over the right lower thorax from the sixth rib downward, and lessened vocal fremitus, resonance and respiratory murmur in the same area. A few moist râles were heard over both lungs.

The liver and the spleen, not palpable. No glandular enlargements.

Slight, whitish, urethral discharge, in which a few gonococci were found in stained cover-glass slip.

The urine: Specific gravity, 1014; acid; albumin present; no casts.

Under the use of salicylates, alkalies, digitalis, ice bag to precordia, diluent drinks, milk diet, and absolute rest, the patient rapidly improved so that two weeks later all evidences of articular inflammation were gone. The pulse had fallen below 90, the temperature was practically normal (the highest temperature at any time was 102.8 F.) and the respirations to 28 to 30.

The outline of heart dulness had completely changed. The apex-beat was just within the nipple line and the left border of dulness just outside the nipple, while the dulness in the right fifth interspace was much less. Friction could still be heard at the fourth and fifth left interspace. The endocardial murmurs remained as before. There was doubtless an associated endocarditis, but this was implanted upon an old endocarditis, for the patient was told during the rheumatic attack which occurred 7 years ago, that the heart was involved.

The acute, rapid and benign course of this case is characteristic of the rheumatic form of the disease, as compared with that which occurs in some of the other infections. Not only was resolution rapid, but from the moment the patient was under the influence of antirheumatic medication, he became much less uncomfortable.

Pericarditis, usually with effusion, occurs like pleurisy in chronic nephritis. The associated uremic symptoms may mark the general symptoms due to the pericarditis, especially if there be myocardial changes, with accompanying pulse changes, altered respiration and disturbed sensorium due to uremia.

The following case is representative of this class:

CASE 3.—W. B., aged 40, carriage painter, married, was admitted to Cook County Hospital, June 18, 1900. Has suffered frequent attacks of articular rheumatism since he was 21 years of age. Had gonorrhea twice. Family history not obtainable.

Present illness began about May 1, 1900, with impaired vision, while he was at work. Dyspnea was soon after noticed and soon became especially aggravated when exercising or when lying down. Edema of the feet and legs gradually developed. He rose three or four times at night to urinate. Lost in strength and endurance; appetite became poor. Bowels were constipated. Had no severe headache and did not lose consciousness.

On admission, patient is poorly nourished and pale. Is restless in bed and remains in a semi-recumbent posture. Hands tremble. Facial expression indicate suffering and at the same time is apathetic. Mind clear, but perceptions slow. Skin cold and dry. Respirations rapid, superficial; expiration prolonged. Face puffy; eyelids edematous. Pupils equal, pupillary reflexes normal. Mouth dirty, teeth, tongue and post-pharynx covered with dry, clotted, dark blood. Radial pulse small and weak; radial arteries thickened.

Chest: Symmetrical. Resonance over right lung normal. Dulness over lower left chest, from a line on the level with angle of the scapula and nipple above, downward; upper line of dulness changes with position of patient. Vocal fremitus diminished over area of dulness; respiratory sounds diminished over area of dulness. No râles; no friction.

Heart: Apex-beat at sixth rib just inside nipple line. Dulness begins above at third rib—on the right half inch to right of the sternum, on the left one and a half inches to left of the nipple. No adventitious sounds were heard. The valvular sounds weak and faint.

Liver not palpable. Spleen not palpable. Edema of feet and legs.

Urine: Specific gravity, 1010; acid; much albumin and many hyaline and granular casts were found.

The respirations ranged from 26 to 30; the pulse from 88 to 100. The patient's chief complaint was dyspnea and fatigue. There was no pain and no cyanosis. He grew more and more apathetic and weaker, and died in coma on the second day after admission.

The clinical diagnosis was chronic nephritis, myocarditis with dilatation of left heart, right pleurisy with effusion, and uremia.

The autopsy revealed: Sero-fibrinous pericarditis, with a good deal of bloody fluid; both layers of pericardium covered with a layer of fibrin; left pleurisy with effusion; chronic myocarditis, with hypertrophy of heart, and chronic interstitial nephritis.

The form of the cardiac dulness and the relation of the apex-beat to the left border dulness should have made a diagnosis of pericarditis possible in this case.

Pyo-pericarditis, when due to the ordinary pyogenic cocci, presents the same difficulties in diagnosis as in pneumonia or other severe infections. This is true because the general infection produces such profound constitutional disturbance that the local condition may be overlooked.

The following case is illustrative of the point:

CASE 4.—F. S., aged 54, Polander, laborer, widower, was admitted to ward 4, Cook County Hospital, March 31, 1900. Patient says he was never ill before. He denies venereal disease. He takes alcoholic drinks in moderation.

About February 14, six weeks ago, the present illness began with a chill, followed by fever and sweat. There was dyspnea and soreness in the front of the chest. He coughed much and expectorated considerable yellowish sputa. There was backache and later swelling and soreness of the ankles. Three days ago a diarrhea commenced and has continued. He has had no appetite. Has lost in weight and strength.

On admission the patient is much emaciated. The face is flushed, the skin is hot and dry. Pupils equal and contracted. Lips parched. Tongue dry and brown. Breath offensive. Pulse 120 per minute, weak and regular.

Thorax: Large and symmetrical. Respirations 26 to 30 per minute; shallow and regular. Hyperresonance over both lungs. Moist râles heard over both lungs, greatest in number over posterior inferior portions. Respiratory murmur somewhat exaggerated but less loud over lower right lung behind. Expiratory sound prolonged everywhere.

Heart area obscured by overlying lung. Apex-beat not felt. Heart sounds are faint. No murmur and no friction rub heard. Liver not palpable. Spleen not palpable.

Skin of body and legs covered with small pustules varying in size from a pinhead to a pea. Left wrist and both ankles swollen and tender. Slight urethral discharge; cover slip preparations show intracellular, biscuit-shaped diplococci. Fluid withdrawn from fluctuating swelling over left external malleolus, showed the presence of pus. Cover slip, stained preparations and cultural tests proved the presence of staphylococcus pyogenes aureus in the pus from the abscess and also from the blood.

The Widal test was negative. A blood count showed 15,200 leucocytes per cu. m., polymorphonuclear leucocytes predominating.

The urine was reddish; acid; 1017; much albumin present; many granular casts, and a few red blood cells.

The patient's temperature was remittent in type. In the evening of the first day it reached 104.4 F. The pulse and respiration increased. The patient became delirious, had hiccough and became very weak. He died on the third day, the pulse reaching 140 and the respirations 56 per minute.

The clinical diagnosis was septico-pyemia, with chronic nephritis and chronic myocarditis.

The autopsy revealed: Sero-fibrinous pericarditis; a quantity of dark straw-colored fluid in pericardium; visceral and parietal layers covered with fibrin; recent adhesions between layers of pericardium and between pericardium and pleura; osteomyelitis of sternum; double fibrinous pleuritis; healed tuberculosis of both apices; left heart hypertrophy; calcareous degeneration of aorta; beginning cirrhosis of liver; miliary abscesses of spleen and kidney; chronic parenchymatous nephritis; purulent cystitis and urethritis, and purulent arthritis.

Tubercular pericarditis is much more common than is generally supposed. Of cases which come to autopsy probably 10 per cent. of all cases, acute and chronic together, will be found to be tubercular. Tubercular infection of the pericardium occurs probably in three ways. In tubercular septicemia, through the lymphatics or by direct extension from the mediastinal lymph glands, neighboring pleura, spinal column, etc.

Clinically it may occur as a dry or sero-fibrinous form. With tubercular processes recognized elsewhere in the body, or with the discovery in the pericardial fluid of tubercle bacilli microscopically, culturally, or by animal test, the diagnosis could be made. Otherwise the form of infection would not be recognized, and in practice it is not.

The following interesting case is one showing the difficulty of recognizing the etiologic infective bacterium:

CASE 5.—G. T., aged 29, single, colored, stone mason, was admitted to ward 4, Cook County Hospital, Oct. 2, 1899. The patient says there is no tuberculosis in the family. Father died of heart disease, mother and seven brothers and four sisters living and well. Had gonorrhea last year from which he made a good recovery. Denies syphilis. Has had measles, pneumonia, and malaria.

Five years ago had typhoid fever, and during convalescence suffered from right femoral thrombo-phlebitis, with gangrene of both great toes, so that amputation of toes became necessary. At the same time he suffered from ulcers of both legs. The right leg was worse than the left. There has been more or less edema of the right leg since the attack of phlebitis, and ulcers of the leg have usually been present.

The present illness began four weeks ago, with severe pain in the left costal margin in the splenic region. The pain became so severe that he was obliged to give up work and was sent to Cook County Hospital, where he remained a week in ward 22. The pain becoming less, he left the hospital. He attempted to work but was obliged to stop on account of general weakness. He had several slight chills during the next few days with fever, and five days ago a severe chill occurred, lasting a half hour. Some fever resulted, but no sweating. He feels weak, but there is no pain. The appetite is good and the bowels regular.

Examination: Large, well-nourished, healthy-appearing man. Expression natural, mind clear. Eyes, ears, nose, mouth and throat negative. Submaxillary cervical axillary, supratrochlear and inguinal lymph glands slightly enlarged and palpable.

Thorax, large, roomy. Expansion symmetrical.

Heart: Relative dulness increased; pear-shape with base downward, extending from the left second costal cartilage downward and outward to one and a half inches to left of the left nipple, and on the right to one inch to the right of the sternum. The right fifth interspace was flat on percussion. The apex-beat could be indistinctly felt in the fifth interspace just inside the nipple. There was friction to and from, a rub heard at the base of the heart and also along the left border near the nipple. There was slight bulging of the chest and somewhat lessened expansion of the left upper chest, but no impulse waves could be seen in the pericardium.

There was slight dulness over the lower right lung behind, with lessened respiratory murmur in the same area and also in the left infraclavicular region. Otherwise the lungs were negative. The pulse was soft, compressible, regular and 100 per minute.

The abdominal wall was rigid. The spleen not palpable. The liver extended, apparently below the costal margin in the mid-axillary line, but the edge was not palpable.

The lower extremities were edematous, the right more dropsical than the left. There were scars of healed ulcers on both legs and an unhealed varicose ulcer of the right leg. The right long saphenous vein was varicose and contained several phleboliths. There were stumps of amputated toes and deformities of the remaining toes. The condition of the lower extremities was the result of the typhoid fever of seven years before and had no relation apparently to the present illness. The temperature was but slightly increased.

On the third day an operating needle was inserted to a depth of one and a quarter inches in the fifth left interspace, one and a quarter inches to left of sternum; 10 c.c. of blood-tinged serum was obtained.

The urine: Amber color; acid; specific gravity 1023; no albu-

min; no casts; no bile. The centrifuge deposit revealed a few hyaline casts.

The patient became gradually worse objectively, although he expressed little feeling of discomfort. The temperature ranged from 99 to 103 F., with the minimum temperature usually in the morning and the maximum in the evening. The pulse was feeble, often irregularly intermittent and later presented the characteristic pulsus paradoxus. The respirations were shallow and ranged from 30 to 40, but the patient did not complain of dyspnea. There was a moderate amount of cough, and a little muco-purulent sputum. Repeated examinations of the sputa from day to day did not reveal tubercle bacilli.

A blood examination revealed 5,200,000 reds, 5750 white cells, and 88 per cent. hemoglobin (Fleischl).

It was noted on the fifth day that the precordial bulging was much greater and that dulness was increased. It extended above to the second rib on the right, to two and a half inches beyond the right border of the sternum, and on the left, to five and a half inches beyond the left nipple. The apex-beat could not be located. The heart sounds were very feeble and distant. No friction sound could be heard. There was relative dulness over the left infraclavicular and over the left scapular region. Broncho-vesicular breathing and a few moist râles could be heard in the same regions. The veins of the neck were distended, especially during inspiration. The patient was inclined to lie on the left side and was most comfortable with the head considerably elevated.

October 17, it was noted that the precordial bulging was greater. The dulness extended as high as the first rib, and six inches to the left of the nipple; on the right, dulness extended three inches beyond the right edge of the sternum at the fourth rib, and extended obliquely outward and downward just below the right nipple. The apex-beat could not be located. No friction was heard. The heart sounds were very feeble. The left lung dulness was the same as previously noted, but there were more râles, both moist and dry. The right lung gave negative findings. The pulse was feeble, especially during inspiration. The veins of the neck were much distended. Widal's test made at this and at subsequent periods, in the dilution of 1 to 10, showed loss of motility and incomplete clumping of the bacilli. This reaction was doubtless due to the attack of typhoid of seven years ago.

At this time the temperature was irregular in type, but lower on the average than when first admitted. It ranged from 97 to 102 F., but no longer followed the physiologic morning remission and evening exacerbation type.

The patient was still fairly comfortable. He made no complaint of pain, but had some dyspnea. He lay upon the left side with the head elevated. Cough was troublesome, but there was but little sputa. There was no left recurrent laryngeal nerve paralysis. The pupils were equal. The mind was clear.

November 2, a small trocar was inserted in the chest, through the fifth interspace, one and a half inches to the left of the sternum, and 1260 c.c. of brownish, slightly turbid fluid was withdrawn. This fluid contained a large amount of albumin. The specific gravity was 1020. Microscopically, there was found many red cells, a few polymorphonuclear leucocytes and large granular flat cells. Stained cover slips showed groups of short, thick, evenly-stained bacilli. Cultures revealed a pure growth of colon bacilli. Careful tests were made to differentiate from typhoid bacilli.

After the tapping, the patient expressed relief from a suffocative feeling which had been oppressing him for a few days. After tapping, it was noted that the bulging of the chest was less and the dulness somewhat decreased, although dulness still extended above to the first rib, five and a half inches beyond the left nipple and to the right border of the sternum. The dulness decreased more on the right than on the left or above.

The pulsations of the heart could be felt over the whole precordia, but the exact point of the apex-beat could not be located. It was, however, apparently not outside the left nipple line. A loud to-and-fro friction rub could be heard plainly over the precordia, loudest at the base of the heart and along the sternum. Relative dulness remained about the same in the left infraclavicular and scapular regions and dry and moist râles could be heard. The radial pulse was stronger and the pulsus paradoxus had disappeared.

The temperature remained as last noted. The respirations were not diminished and soon after increased in frequency. A blood count made November 8 showed 5,200,000 red cells, 4200 white cells and 90 per cent. hemoglobin (Fleischl).

It was noted that the signs of a gradual increase of the fluid in the pericardium were returning, and on November 11, 1050 c.c. of fluid was again withdrawn. This was turbid and reddish, alkaline in reaction, specific gravity 1022, and contained much albumin, a few polymorphonuclear leucocytes and red cells. No bacteria were found in this fluid in stained specimens and culture media inoculated remained sterile.

The tapping again relieved the patient's dyspnea and the pulse became stronger. He complained from this time on of weakness, the appetite was gone, he was apathetic, and usually lay half asleep, often muttering incoherently. When roused the mind was clear. Fluid gradually accumulated again in the pericardium, bringing more subjective distress, especially dyspnea.

The urine now contained much albumin and many hyaline and granular casts. Edema of the legs increased and the face became puffy. Friction rub was heard over the right chest, behind and in front. Moist râles increased in the left upper lobe and became numerous in both lungs posteriorly. The patient died suddenly November 23, fifty-two days after admission. The clinical diagnosis was pericarditis with effusion, right pleuritis, hypostatic congestion of both lungs, and nephritis.

The postmortem revealed the pericardium greatly distended with a clear straw-colored fluid; pericardium greatly thickened and adherent posteriorly to both lungs; pericardiomediastinitis, the whole surface of visceral layer covered by numerous large villi and nodules. In addition there was: Hypertrophy of the heart atelectasis of the left upper lung; adhesive pleuritis on the right side, adhesive peritonitis about liver and diaphragm; passive hyperemia of liver and spleen; tuberculosis of peribronchial, peripancreatic, retroperitoneal mesenteric and mediastinal glands, and finally edema of lungs. This case was reported by Dr. H. Gideon Wells.[1]

Here the pericarditis was the result of direct extension of tuberculosis from the mediastinal glands. Clinically it was impossible to diagnose tuberculosis.

To Dr. Robert H. Babcock was assigned the subject of adherent pericarditis, and I shall therefore leave to abler hands the clinical aspects of that form of pericarditis. The foregoing illustrations of pericarditis of several varieties, etiologically considered, present clinically, as far as the heart and pericardium are concerned, practically the same signs and symptoms.

CARDINAL SIGNS.

The cases further illustrate the importance of the three cardinal signs of pericarditis, namely, 1, the pericardial friction rub, 2, the form or outline of the precordial dulness, and 3, the position of the apex-beat, especially in relation to the left border of the precordial dulness.

The pericardial friction rub is doubtless present in every case of pericarditis in some period of its course. It is practically the sole local sign in plastic pericarditis. It may not be recognized in pericarditis with effusion, although it is probably present in every case at any early stage of the disease, and in cases which recover after the disappearance of the effusion. It may be present, too, during the stage of effusion.

I shall not discuss its character or the means of differentiating it from endocardial or pleuritic murmurs.

1. The Pathology of Active Tuberculosis of the Pericardium, JOURNAL A. M. A., May 25, 1901, p. 1451, vol. xxxvi, No. 31.

This is fully discussed in many good text-books on medicine and diagnosis.

The form of the outline of dulness in pericardial effusion is also characteristic. The pear-shape outline with the base downward; the dulness, even in the early stage of effusion, in the fifth right interspace, close to the sternum, obliterating the resonant angle formed by the lung, heart and liver; the dulness over the sternum extending to or above the second rib, together with the outline of the left border dulness, all these are easily recognized and almost pathognomonic. It is true that a greatly enlarged heart, with all its chambers dilated from myocarditis, and a weak diffusible apex-beat may present an outline of dulness which so nearly resembles that of pericarditis with effusion that it may be impossible to differentiate between them, without puncture. The limits of this paper will not permit the discussion of many of the interesting points concerning the precordial dulness of cardiac, vascular, lung and pleural diseases, and especially as compared with pericarditis.

The location of the apex-beat in pericarditis with effusion is characteristic. When it is perceptible it will always be found that the left border of dulness is relatively far removed from it, as it is not in any other cardiac disease.

In large effusions it may be obscured and at other times the right ventricle may strike the chest wall in the region of the nipple, or undulatory waves may be seen as the only evidence of the heartbeat against the chest wall. However, it matters not how the apex beat or the impulse of some other part of the heart against the chest wall be ascertained, it will be found that the point of contact of the heart against the chest wall is always relatively far removed from the left border of precordial dulness, as compared with the relations of the apex-beat to the left border dulness in all other conditions.

OTHER SIGNS.

Some of the other signs of pericarditis have been named in the reported cases. They are as follows: The relatively rapid respiration and dyspnea; the signs of compression of the left lung, evinced by the left interscapular and subscapular dulness and bronchial breathing; the rapid heart action, the pulsus paradoxus, and the asymmetry in size of the pulse of the radials; the irregular type of temperature; the paralysis of the left recurrent laryngeal nerve; the unequal pupils; the disturbed mental state of the patient, and still other phenomena. These are not so characteristic as the three cardinal signs first named, but are important and significant when present.

Pericarditis is an easily recognized condition. Frequent careful systematic examination of the precordium should be made in all infectious diseases, and if this is done pericarditis will not escape one. The diagnosis will then be made during life and not at the postmortem table as is unfortunately now the case in at least 50 per cent. of the cases of pericarditis which autopsy reveals.

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Treatment of Eczema.—Spiegler recommends painting the patch with equal parts of caustic potash and distilled water for a minute at most, and then cauterizing with equal parts of nitrate of silver and distilled water. The dressing then applied can be left undisturbed until complete recovery. This method of treatment is applicable only to chronic, limited, circumscribed eczema with no signs of inflammation.—*Derm. Cbl.* from Kaposi's Festschrift.

THE PATHOLOGY AND PATHOGENESIS OF PERICARDITIS.*

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PHILADELPHIA.

The ancients supposed disease of the heart to be incompatible with life, the heart being the center of life. Galen, in the second century after Christ, observed pericarditis in the lower animals and inferred its occurrence in man. Before this knowledge had been gleaned, all peculiarities of the structure or appearance of the heart were supposed to denote attributes of character. Thus, Haller speaks of the "hairy hearts" of Leonidas, Lysander and Aristomenes, as indicative of great bravery, those "hairy hearts" undoubtedly being viscera covered with stringy fibrin.

ETIOLOGY.

The disease is now known to be of frequent occurrence. It is most common in adolescence and early adult life, between the ages of 15 and 30. It occurs in childhood and in infancy, and rarely in the fetus. It also occurs in late adult life, and sometimes in senility. Knopf saw pericarditis 10 times among 459 cases of diseases of childhood, occurring between 1 and 11 years of age.

It is more frequent in men than in women, probably because they are more exposed to its causes. Concerning the relative frequency authors vary. Barthez and Rilliet observed it in 21 men and 3 women. Bamberger gives the ratio as 38 to 25, and Sibson at 35 to 28. All classes of society are liable to the affection, and it is not known that occupation or social condition has any predisposing tendency toward it.

It is customary to divide the cases into two classes: 1. Primary or idiopathic; 2, secondary or metastatic.

1. As all cases depend upon infection, and so far as we know, all the lesions depend upon the local operation of infectious agents, idiopathic pericarditis signifies nothing more than that the infectious agents having entered the circulation through some undiscoverable lesion, have produced their first visible changes in the pericardium. Inasmuch as such an accident must be much less frequent than the entrance of bacteria through recognizable lesions, primary pericarditis is extremely rare. Most writers of experience report that they have seen one or two cases of primary pericarditis, but all agree that it is very rare. Bauer in von Ziemmsen's Handbook states that out of the 3000 autopsies which occur yearly in Munich, he sees only two or three cases of idiopathic pericarditis.

2. Secondary pericarditis, on the other hand, is not infrequent and is a common complication of the infectious diseases. It occurs chiefly by hematogenous metastasis, but may also result from lymphogenic metastasis from contiguous infectious processes, and from internal and external traumatisms.

Traumatism as a cause of pericarditis may be disposed of in a few words, as it is of importance only as it affords an avenue of entrance for micro-organisms, or produces conditions favorable to their colonization in the tissue. External punctured and incised wounds are harmless, if performed under aseptic conditions. Ordinary wounds of the pericardium, if infected, produce a localized form of inflammation, not analog-

* Read in a Symposium on Pericarditis at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section.

ous to the usual forms. The extent and character of the lesions will, however, vary according to the nature of the infectious agent introduced.

Internal traumatic lesions are not uncommon. Foreign bodies in the esophagus and stomach may perforate the pericardium. Tuberculous vomica may rupture into it; abscesses of the spleen, liver, lung, heart wall, mediastinal glands, etc., may burrow into it. Empyemas sometimes form fistulous communications with it, and echinococcus cysts and aneuryisms of the aorta sometimes rupture into it. Abscesses and other morbid conditions of the mammary gland and skin sometimes descend and invade the pericardium. In all of these conditions the morbid anatomic picture will vary according to the circumstances of the case, none of them conforming to the descriptions later to be given of the true clinical pericarditis.

Lymphogenous metastasis may occur in many of the local contiguous affections mentioned in which no actual traumatic lesion exists. In this manner, disease of the mediastinum, pleura, etc., may occasion pericarditis.

Hematogenous metastasis is seen in nearly all of the infectious diseases, but especially in the following: 1, rheumatism; 2, pyemia; 3, septicemia; 4, pneumonia; 5, chorea; 6, endocarditis; 7, other acute infectious diseases; 8, tuberculosis; 9, scurvy; 10, blood diseases, and 11, malignant disease.

Rheumatism is more liable than any other of the infectious diseases to be succeeded by pericarditis. The percentage of cases given by various writers differs widely. Bauer attributes this to the variation in the characteristics of rheumatism as it occurs in different places. The highest percentage of cases is given by Williams, who thinks it is 75 per cent. The following table gives the percentages of various authors:

Williams, 75 per cent.; Leudet, 22; Bamberger, 30; Chambers and Thompson, 20 to 30; Bauer, 16 to 20; Ball and Sibson, 20; Wunderlich, 19; Duchus, 16; Latham, 5, and Teller, 4.7 per cent. The occurrence of pericarditis is rare in subacute rheumatism and is said not to occur in chronic rheumatism. It therefore is to be looked for in the acute forms, and in gonorrheal rheumatism. The disease is more liable to occur in the polyarticular forms than in the monoarticular forms, and it is said to be most frequent in those cases in which the inflammation wanders quickly from one joint to another. Pericarditis may be the first expression of rheumatic infection, preceding the articular symptoms, or it may succeed them. The usual time for its occurrence is between the 6th and 14th days.

Pyemia is frequently accompanied by pericarditis, the relations of the two processes being so clear that no further mention of it need be made.

Septicemia is also frequently complicated by pericarditis. The statistics of Kirke and Willigk showing 5 out of 91 cases.

Pneumonia is liable to be accompanied by pericarditis in something over 7 per cent. of the cases. Leudet saw it 6 times in 83 cases.

Chorea is not infrequently complicated by pericarditis, Roger having observed it in 5 out of 71 cases, and Olivier in 1 out of 30 cases.

Endocarditis is quite frequently complicated with it. This is both because the two conditions are liable to depend upon the same cause, and because of the likelihood of metastatic infections in endocarditis.

Various other infectious diseases in which the occurrence of pericarditis does not take place with any regularity must also be mentioned. Among these are scarlet fever, smallpox, relapsing fever, measles, erysipelas, gonorrhea, syphilis, dysentery, cholera, typhoid fever, vaccinia, cerebro-spinal meningitis and diphtheria.

Tuberculosis may lead to pericarditis both by metastasis, continuity of tissue, and the rupture of vomica into the cavity. The lesions occasioned may be either local or general, and the exudation is nearly always purulent. Indeed, Birsch-Hirschfeld states that the majority of cases of pericarditis with chronic purulent exudation are tuberculous.

Scurvy is usually associated with hemorrhagic extravasations into the tissue and upon the serous membranes, and is nearly always accompanied by superficial lesions of the mouth and skin, which favor the entrance of bacteria into the circulation. Both of these conditions, together with the general vital depression that exists in scurvy, favor the development of pericardial infections, so that pericarditis with sero-sanguinolent, and purulent exudates are common. The effusions that can occur under these conditions may be enormous. Sometimes, in scurvy, pericarditis may be endemic and Koch is satisfied that it is identical with the *morbus cardiacus* of the ancients.

Blood diseases with diminished vital resistance, such as hemophilia, hemorrhagic diathesis, purpura, leukemia, diabetes, etc., may also be complicated with pericarditis. For the same reason the disease also occurs in alcoholism, cirrhosis of the liver and in nephritis. It is in chronic nephritis that pericarditis is most apt to occur, its development usually coinciding with the first symptoms of uremic blood poisoning. The frequency of its appearance is given by Taylor as 33 per cent.; by Bamberger, 14; by Rosenstein, 7, and by Frerichs, 4.5 per cent.

Malignant disease, as in carcinomatous invasion of the pericardium from primary disease of the mammary gland, esophagus, thyroid gland, etc., may by invasion of the pericardium lead to the diminution of its vital resistance, the occurrence of an unusual quantity of sero-sanguinolent exudation, and so predispose to the occurrence of infections, should bacteria in any way reach the tissues.

BACTERIOLOGY.

There is no specific micro-organism of pericarditis. The manifold conditions in which the disease occurs, and the varied morbid anatomic appearances which it presents, suggested this before experimental research in bacteriology proved it.

In the sero-fibrinous form of the disease, the study of numerous cases has revealed the presence of streptococci, staphylococci, pneumococci, bacillus pyocyaneus, the bacillus of Friedländer, and the bacillus tuberculosis.

In the purulent form, streptococci, staphylococci, bacillus coli communis, bacillus of Friedländer, and the tubercle bacillus have been found.

The hemorrhagic form is apt to be tuberculous, so that the tubercle bacillus may be found, together with other accidental organisms.

In the pyo-pneumo-pericarditis, and in fetid pericarditis, with communications with the lung, esophagus, etc., numerous saprophytic micro-organisms may be found.

MORBID ANATOMY.

It is customary to divide pericarditis into numerous forms according to the peculiarities of the exudate. The forms usually described being as follows:

1, Pericarditis sicca; 2, sero-fibrinosa; 3, purulenta;

4, adhesiva chronica; 5, hemorrhagica, and 6, tuberculosa.

Concerning the frequency of occurrence, the best figures obtainable seem to be those of Breitung, who collected 324 cases of pericarditis among the autopsies of the Berlin Charité, between the years 1866 and 1876, and found the following distribution:

Pericarditis sero-fibrinosa, 108; hemorrhagica, 30; purulenta, 24; tuberculosa deuteropathia, 24; tuberculosa idiopathia, 2; adhesiva partialis, 111; adhesiva totalis, 23, and ossificans, 2 cases.

It is an error to think of these names as referring to distinct forms of the disease. They are for the most part stages of the same process, and a description of the morbid process will make this clear. The first expression of the inflammatory process is found in redness and dryness of the surface of the pericardium—pericarditis sicca—upon which the vessels stand out with unusual distinctness. The natural glaze of the surface is lost, and the two surfaces, parietal and visceral, when they come in contact, rub one against the other with an unnatural degree of friction, which is painful to the patient, and which gives the well-known friction-sound to the ear of the auscultator. It may be that a few flakes of fibrin appear upon this dulled surface, and are rolled into threads by the incessant movements of the heart.

The disease may advance no further than this, and terminate in perfect recovery, but usually the excitant by which the disease is produced occasions further changes, and the inflammatory hyperemia is succeeded by a period of transudation, in which in most cases a clear serous fluid is poured out into the sac. Almost immediately a deposition of fibrin takes place from the fluid upon the surface of the membranes, chiefly, however, upon the heart itself. It forms a more or less coherent membrane which can readily be stripped off, leaving a fairly healthy surface behind. The membrane is, however, almost immediately changed in appearance by the movements of the heart, which tend to gather the sticky material into irregular forms. Upon the right ventricle, and especially upon its inferior and right surfaces, and upon the right auricle, the combined pressure and movement of the heart roll up the fibrin into threads of rounded form, which, after a time, give that part of the organ a shaggy, villous appearance—*cor villosum*. The left ventricle which has a different movement, and is freer of pressure, usually presents a reticulated membrane which is not unlike a piece of omentum upon its surface. As the accumulation of serum and precipitation of fibrin go on, the pericardial sac becomes distended, its base being broad, the precordial area tending to bulge it. The quantity of accumulated exudate usually reaches one-half to one pint, but it is not rare for it to reach a quart. Corvisart and Louis mention cases with exudates of 1000 and 1200 grams. Montague found one with 1850 grams of exudate, of which he withdrew 1000 grams by puncture. Gosselin once saw 2000 c.c. of fluid in the pericardium. The largest serous accumulation that I have seen recorded is that of Corvisart, who found 8 pounds of serum in one case.

If the bacteria upon whose activity the pericarditis depends are of markedly chemotactic influence, the exudate may be more or less purulent from the start. How often this is the case it is difficult to conclude from the number subsequently found to be purulent, and it is usually supposed that it is not uncommon for the sero-fibrinous exudate to become purulent in consequence of further changes in the local conditions. In 39 cases studied by Louis, the exudates were: Serous, 9; purulent, 7; sero-sanguinolent, 10, and sero-purulent, 13.

The purulent exudates are apt to be larger than the sero-fibrinous exudates. Martin has seen 3¼ pounds of purulent matter, and Alonzo Clark, 1 gallon of sero-pus in the pericardium. In cases of purulent exudation the pericardium is still found to be covered by the fibrin as previously described.

Should general conditions, such as the existence of scorbutus, or of local conditions, such as extremely active inflammation, exist, blood may be added to the exudate, whether previously serous or purulent. It is chiefly in scorbutus that bloody effusions occur, and it is almost inconceivable to what extent the pericardium may be distended. Andrea has seen 2 pounds of blood in the pericardial sac, and in scorbutic cases Kyber has found as much as 10 liters of bloody fluid.

The terminations of the process will depend upon its severity and the extent of damage done. When the disease does not advance beyond the stage of congestion, the return to the normal is a very simple matter. So soon as the membrane becomes covered with fibrin, however, new conditions present themselves and it is well-nigh impossible for recovery to take place without leaving marked changes behind.

The deposition of fibrin upon the already diseased surface is shortly succeeded by the degeneration and destruction of its covering endothelial cells. The connective tissue of the sub-endothelial layer of the pericardial membrane now begins to grow, and into the spaces of the fibrinous deposit a delicate, well-vascularized granulation tissue grows, extending as the fibrin melts away. Transmigrated leucocytes penetrate the tissues and aid in the removal of the fibrin.

The result of the presence of this growing tissue is that contiguous surfaces of the membrane are apt to grow together by firm fibrous unions, and that upon surfaces not in contact, more or less regular connective tissue indurations, and callous formations form. The length of time required for the formation of these adhesions is probably considerable. Their duration is permanent, though in the course of time the influence of traction may modify them.

While the absorption of the serum from sero-fibrinous exudates presents no great difficulties, the case is different when the exudate is purulent, for the burrowing tendency of the pus must be considered. Purulent exudations may be absorbed. They may, however, burrow in various directions and discharge externally. The usual seat of pointing is the precordium. Fabricius saw a purulent pericarditis point in the 2d left intercostal space. Wyss saw the pus penetrate a rib and be discharged externally. Rich reports a case that bored through the sternum and presented as a subcutaneous enlargement the size of an apple on the anterior chest wall. Sometimes the pus burrows down the back simulating the descending abscesses of Pott's disease; rarely it points sub-phrenically. One of the interesting terminations is into the lung, the pus being discharged through the bronchial tubes. This occasions what is known as a pneumo-pericarditis or a pyo-pneumo-pericarditis. In these cases, not only is the pus discharged into the bronchial tubes, but there is an opportunity for the purulent effusion in the pericardium to receive saprophytic bacteria from the lung and become fetid.

The purulent inflammation also leads to great thicken-

ing of the membrane. Horn has reported an interesting case of extraordinarily thick pericardium and Nunier has seen the membrane thickened and callous, with imbricated scales like a pineapple.

After evacuation of the pus there is usually some residual exudate, and in cases which terminate by resorption, the residuum is prone to undergo calcification. A most interesting case is reported by Drummond in which there was an extensive bone-like deposit between the layers of the muscular tissues of the heart—"a thick bone-like mass ran across the whole left ventricle, penetrating the entire wall of the heart like a wedge and reaching into the cavity of the left ventricle." Variot observed a case in which the left ventricle was covered by a solid hard plate of chalky matter on its whole anterior surface. Other cases of calcification have been observed by Tiessier and Richards.

PROGNOSIS.

The effect of pericarditis upon the heart is of great importance. No considerable disease of the epicardium is possible without involvement of the heart. The superficial layers of muscular fibers usually show cloudy swelling, later hyaline or fatty degeneration. In cases with purulent exudate the pus may also gradually work its way between the muscular bundles.

The changes that thus take place during the height of the disease predispose to acute dilatation of the heart, and a fatal termination of the disease may thus be brought about. If this does not occur, and if the patient recovers from the pericarditis, the regenerative cicatricial processes that go on lead to fibroid interstitial changes in the wall of the heart. If many adhesions form and interfere with the action of the heart, a very marked hypertrophy of the organ may occur to compensate for the embarrassment.

The tuberculous disease of the pericardium differs from the form described in that it is essentially chronic and purulent from the beginning. A proper description of the various pictures presented by this disease is made impossible by the time allotted to this paper.

Syphilitic pericarditis has been observed by Orth and by Lancereux, who observed gummatous formations in the pericardia of syphilitic children.

ETIOLOGY OF PERICARDITIS.*

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The etiology of pericarditis has been discussed so often and by so many that it is indeed difficult to present a discussion of it to a body of this character in such a manner as to arouse interest. For this reason it seemed better to disregard the extensive literature upon this subject and utilize the reports of three hundred cases as a text, dwelling upon some points of interest presented by them and drawing attention to some things in which they differ from generally accepted statements. The cases in hand consist of 80 cases ending in recovery and 220 ending in death, of which 190 were examined postmortem; 244 of these cases are acute pericarditis and 56 are of the chronic form with partial or complete obliteration of the pericardial sac. The cases are derived in part from the records of the Cook County Hospital, where many of the cases were seen personally and in part from private records.

The immediate exciting cause of the pericardial inflammation is usually unknown and apparently undiscoverable by our present methods. We know that there are certain diseases in which pericarditis frequently occurs as a complication, but whether the irritant causing the inflammation is a bacterium or a toxin is still uncertain. For example, the pericarditis accompanying the chronic diffuse nephritis may be of toxic origin; some authors, indeed, speak of it as a uremic pericarditis, or it may be of bacterial origin as others believe. So also the pericarditis of rheumatism may be due to a bacterium, or may be as some suspect the joint inflammations to be, of toxic origin. In a limited number of cases bacteria have been found in the exudate, pus cocci, pneumococci, tubercle bacilli, bacillus pyocyaneus and others, but in many cases the exudate is sterile. In many cases the irritant body reaches the pericardium through the lymph channels, or by direct extension, but doubtless there are numerous cases, apparently of this sort, which are really hematogenous.

It has been customary to divide the cases of pericarditis into two groups, primary and secondary, meaning by the former cases in which there is no manifest disease, to which the pericarditis appears as a complication. Most authors state that careful attention to etiology has reduced the primary cases to a vanishingly small group. This is doubtless true, but there is no apparent reason why the pericardium should so differ from other serous membranes that it does not become the seat of a primary inflammation. Of the cases which went to autopsy there is but one which could in any way be regarded as a primary pericarditis, and even in this case there was an old adhesive pleuritis, which might easily have been tubercular or the remains of a former pneumonia. This fact might be regarded as strong evidence against the existence of a primary pericarditis. There are 12 cases with 3 deaths in which the diagnosis of pericarditis alone is made. It is impossible to say how many of these cases should be regarded as examples of primary pericarditis, but in all the pericarditis was the prominent clinical feature and in several careful search for some cause failed to reveal any. Although there are no examples of pericarditis following injury of the pericardium in this series, such cases occur and in them the relation of cause and effect is too manifest to require any discussion.

Let us first take up the 244 cases of acute pericarditis or rather the 232 cases left after deducting the 12 cases already mentioned, grouped according to the primary disease and in the order of relative frequency.

First come 79 cases of pericarditis with acute pneumonia of which 73, i. e., 92.4 per cent. ended fatally. In 55 of them it is stated what lobes were involved in the pneumonia. In 23 cases the pneumonia was in the right lung, 21 in the left, and 11 times both lungs were involved. The percentages do not differ very greatly from those given by Aufrecht, Grisolle and Huss as to the relative frequency of the right, left and bilateral pneumonia, as shown in the following table:

	AUFRECHT, GRISOLLE, HUSS. Per cent.	PERSONAL. Per cent.
Right-sided pneumonia	52.0	23 cases, i. e., 42
Left-sided pneumonia	35.2	21 cases, i. e., 38
Bilateral pneumonia	12.8	11 cases, i. e., 20

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The right-sided pneumonia is complicated less often and the bilateral pneumonia more often than should be expected. More detailed consideration derives some interesting facts. According to Juergensen's figures, pneumonia is limited to one lobe in 65.75 per cent. of the cases, but in this series there are only 20 monolobar pneumonia, i. e., 36 per cent., which is approximately but one-half the normal number; there are 22 bilobar cases, i. e., 40 per cent., nearly twice the percentage given by Juergensen, 22.35 per cent.; there are 9 cases with 3 lobes involved, 16 per cent. as compared with 8 per cent., and 4 cases with 4 lobes involved 8 per cent. as compared with less than 2 per cent. The danger of pericarditis developing as a complication of pneumonia increases with the extent of the pneumonia and is relatively greater with left than with right-sided pneumonia. The various lobes are involved in about the normal percentages. In the 55 cases there were 107 lobes involved and the percentages correspond very closely to those of Juergensen as nearly as his figures can be utilized.

The following table shows this clearly:

	JUERGENSEN.	THIS SERIES.
Right lower	....29 per cent	25.23 per cent.
Right middle	...14 per cent.	14.94 per cent.
Right upper	....18.7 per cent.	16.82 per cent.
Left lower	.....25.4 per cent.	26.16 per cent.
Left upper	.....12.3 per cent.	16.82 per cent.

The most marked exception to the rule occurs in cases in which the right upper lobe alone is involved. Normally these cases make up 12.15 per cent. of the whole, but to this series they contribute but 2 per cent. This may be looked upon as compensation for the greater danger of cerebral complications which characterizes the R.U.L. pneumonia. Another important exception is the pneumonia of the entire left lung, which normally occurs in but 8.54 per cent. of all cases, but in this series makes 22 per cent. of the total.

When only a single lobe is involved, the especially dangerous lobes are the right middle and the left upper. The right middle furnishes 5 per cent. of the unilobar pneumonia complicated by pericarditis and only 1.77 per cent. of all pneumonia, the left upper 20 per cent. and 6.96 per cent. respectively. The most probable explanation of this is that the pericarditis results from direct extension from these lobes, both of which lie in closest anatomical relation to the heart.

The frequency with which pneumonia is complicated by pericarditis can not be definitely stated, for the statistics vary from a fraction of 1 per cent. to 8 or more per cent. Probably the figure given by Chvostek, 5 per cent., is about right, i. e., about 1 pneumonia in 20 is complicated by pericarditis. Utilizing the figures derived from this series of cases, we may say that with one-lobed pneumonia the chances of complicating pericarditis is 1 in 40; with two-lobed pneumonia, 1 in 10; with three-lobed pneumonia, 1 in 10; with four-lobed pneumonia, 1 in 5; with pneumonia of entire left lung, 1 in 8.

Next in point of frequency come the cases which present clinically an acute articular rheumatism or the effects of such an attack in an endocarditis. These cases number 65, of which 37 are accompanied by inflammatory changes in the joints with or without endocarditis and 28 are free of articular changes, but show old changes in the endocardium and fresh changes in the pericardium.

The most marked contrast between these cases and the pericarditis complicating pneumonia is the mortality. Seventy-three of 79 cases of pneumonia with pericarditis ended fatally, while in this group there are fifteen deaths and most of these were due to endocarditis or cardiac insufficiency.

Let us consider first the 37 cases presenting acute joint changes, of which 11 showed also an endocarditis. This is in rather marked contrast to the figures of Sibson, who has an elaborate paper upon pericarditis in Reynold's "System of Medicine." Sibson had 63 cases of pericarditis, of which 54 presented endocardial changes also. This is a much higher percentage than these cases give even if we take all 65 cases together yielding 39 cases of endocarditis. This is probably due to the fact that these cases are nearly all adults and the bulk of them males. The same rule holds for pericarditis and endocarditis, the danger of these complications is greatest during the first two decades of life; the younger the patient, the greater the danger of cardiac complications. Sibson found that one-half of the male and more than one-half of the females were under 20.

Sturges, in 100 fatal cases of heart disease in children, found 54 of rheumatic origin and all but 6 of these showed also a pericarditis.

In this series there are 56 males and 9 females, which would indicate a very great predisposition on the part of male patients. This inference can not, however, be made, because of the very great excess of male patients in the hospital. Sibson, however, finds in his series of 35 males and 28 females, which is in proportion to the number of cases of acute articular rheumatism as 1 to 4 and 1 to 6 respectively, and finds that beyond 21, males are attacked three times as often as the females. These figures differ from those of the Commission of the British Medical Association, which examined the reports of 655 cases of acute articular rheumatism, in 111 of which there was a pericarditis, 56 males and 55 females.

There is no invariable relation between the number of joints involved or the severity of the changes, but in general the more numerous and the more severe the joint changes, the greater the danger of pericarditis developing.

Sibson, Ball, Wunderlich, Leudet, all place the percentage of cases of acute articular rheumatism developing pericarditis at 20 per cent., the British Commission at 16.94 per cent., Bamberger and Eichhorst place it at 14 per cent. and Latham as low as 7 per cent. With few exceptions, of which Stokes, Graves, West, Trousseau and others have reported examples, the joint changes precede the pericarditis by about 10 days to 2 weeks; 6 to 10 days (Hughes), 14 days (Bamberger), 11 days (Sibson).

Chronic rheumatism and gonorrheal rheumatism rarely excite pericarditis, but examples of both have been recorded by various authors.

Of the 65 cases of pericarditis of rheumatic origin, 39—i. e., 60 per cent.—were accompanied by endocarditis, a figure somewhat lower than that of Sibson, who found the combination in 54 of 63 cases—i. e., 85.7 per cent. This is from 3 to 4 times the normal percentage of endocarditis—namely, 20 per cent. Of the cases in which the endocardial lesion is specified, two-thirds are of a single valve and one-third combined aortic and mitral. This is the normal relative frequency of univalvular and bivalvular endocarditis. Of the single valve lesions, the mitral are three times as common as the aortic. A case of combined rheumatism and endocarditis is very apt to be further complicated by a peri-

carditis, but this danger is no greater for aortic than for mitral endocarditis.

The third group, consisting of 26 cases, is made up of pericarditis developing in the course of a nephritis. The frequency with which this complication occurs is variously stated by various authors, Rayer putting it as low as .5 per cent. and Buhl as high as 35 per cent. Probably the correct figure is about 15 per cent.; this is the figure obtained by Meier from 321 autopsies on patients with nephritis. Sibson puts the figure at 8.4 per cent. for England, 10.4 per cent. for Germany and 3 per cent. for France. While it may occur with any form of nephritis, it is particularly apt to occur with the chronic diffuse nephritis with contractions. This is the form of nephritis in all of these cases. Sibson states that he found pericarditis twice in 15 cases of acute Bright's disease not following scarlet fever, and no cases with the nephritis following scarlet fever; once in 62 cases of large white kidney; 23 times in 162 cases of granular kidney; twice in 22 cases of amyloid kidney. It has been justly regarded as a serious complication as is shown by the fact that 22 of this series ended fatally, 21 being examined postmortem.

The explanation of the relation of pericarditis and nephritis has been a matter of dispute ever since the relation was noted by Bright in 1827. Theoretically, we can imagine three possible relations, 1, an acute infection exciting both pericarditis and nephritis; 2, an acute infection in a nephritic, exciting a pericarditis, and 3, pericarditis developing in a nephritic patient without any manifest cause except the nephritis. This last group is the one which concerns us and all of the 25 cases belong here.

The older writers, like Bright, Traube, Wagner, Bartels, believed that the pericarditis was of toxic origin and excited by the altered state of the blood. Kéraval tried to excite pericarditis by injection of urea, carbonate of ammonia and the like into the pericardial sac of healthy animals, but failed to obtain any results. He, however, retained the opinion that the pericarditis was of toxic origin. More recently Beco produced slight pericarditis in 3 rabbits, and marked in 1, by ligating the ureters. He does not, however, think that this proves the uremic origin of the pericarditis. Still more recently Chatin examined the pericardial fluid and the toxicity of the blood serum in four cases, and in all found the fluid sterile and the toxicity of the serum low.

Lécorché and Talamon, noting the frequent association of the pericarditis with inflammation of the lungs, pleura or endocardium, thought the pericarditis an infection. With the exception of one case by Bosc, in which the pneumococcus was found, the fluid has been found sterile, four times each by Banti and Chatin, once each by Beco, Merklen and Dessy.

The next group is the tubercular group, consisting of 24 cases, all ending in death, and 20 subjected to autopsy. In 6 of these the pericarditis is a part of an acute miliary tuberculosis; of the other 14 cases the lungs were the seat of a chronic tuberculosis in all. Three times empyema, once right and twice left, was present. Many of the cases showed also a chronic inflammation of the pleura, in a few the bronchial, mediastinal and mesenteric glands were involved. Of the four cases not examined postmortem one was a tubercular pneumonia, two were combined tuberculosis of pericardium and pleura, one was a tuberculosis of lung, pleura, pericardium and peritoneum.

There are 11 cases grouped as sepsis, 10 of known origin and 1 kryptogenetic, all ending fatally. In 5 cases the original infection is remote from the pericardium, twice an osteomyelitis and three times a cellulitis. In 5 cases direct extension may be assumed, once from a right-sided pyo-pneumothorax with gangrene of the lung, once from a subphrenic abscess secondary to a carcinoma of the stomach, twice from suppurative mediastinitis and once empyema probably of pneumonic origin.

Then come six cases of aneurysms of the ascending or transverse aorta, four with acute pericarditis and two with rupture of the aneurysm into the pericardial sac. There are four cases of typhoid associated with pericarditis, three ending in death and autopsy and one recovering. Lastly, there are seven cases in which tuberculosis, pleuritis, endocarditis, myocarditis, aneurysm and nephritis are so combined as to make it uncertain which factor is most important in determining the pericarditis.

There are 56 fatal cases of chronic pericarditis, all with autopsies, and in 37 of them one can infer the cause with a fair degree of certainty. The uncertainty of the clinical diagnosis of adherent pericardium has led to the exclusion of all purely clinical cases. Cases in which a positive clinical diagnosis of concretio cordis can be made are so few that they may be neglected for purposes of this sort. Of the 37 cases in which the cause seems clear 19 are found associated with chronic diffuse endocarditis, 11 with tuberculosis, 5 with chronic diffuse nephritis and 2 with aneurysm of the aorta.

Of the 19 cases associated with endocarditis, which in all cases was chronic, although in a few there was an acute exacerbation, 10 were upon both the aortic and mitral valves, 5 on the mitral alone, 3 on the aortic valves alone and 1 on the mitral and tricuspid. These figures are of interest when one recalls the figures as to the relative frequency of the various valvular lesions given by Sperling from the Virchow Institute. According to these combined aortic and mitral lesions make up but one-quarter of the entire number, yet in more than one-half of the 19 cases of combined endocarditis and obliterative pericarditis, the endocardial lesion was double. The danger of pericarditis is six times as great with a mitral and aortic endocarditis as with either lesion singly. I believe this fact can be utilized in the clinical diagnosis of concretio cordis. Obliterative pericarditis was found three times with simple aortic endocarditis and five times with simple mitral, i. e., 3 to 5, a relatively high figure, for normally simple mitral is four times as common as simple aortic endocarditis. The danger of pericarditis is proportionate to the extent of the endocarditis, and aortic endocarditis is more often accompanied by pericarditis than is mitral endocarditis. This differs somewhat from the cases of acute pericarditis where it did not seem to make any difference whether the endocarditis was aortic or mitral.

All of the 11 cases of obliterative pericarditis associated with tuberculosis showed a chronic tuberculosis of the lungs; most of them showed in addition an obliterative pleuritis either unilateral or bilateral, and in a few instances there are tubercular foci elsewhere in the body. Three of the cases showed also an acute diffuse miliary tuberculosis. It is manifest from this that tuberculosis is by no means so potent a factor in the production of the obliterative pericarditis as has been generally stated. When one recalls the very large num-

ber of patients suffering from pulmonary tuberculosis these few cases appear very insignificant. Sepsis, especially the attenuated form known as acute articular rheumatism, when accompanied by endocarditis, is a much more potent factor.

There are four examples of concretio cordis accompanied by nephritis. In none of these is there any manifest cause of the pericarditis except the nephritis, and while it is generally stated and generally true that pericarditis accompanying nephritis is an advance courier of death, this is not always so, as was illustrated when speaking of the acute pericarditis, and we must assume the nephritis as the cause in these cases. It is, of course, possible that the concretio cordis came from some other cause and the nephritis is superimposed.

In two instances the obliterative pericarditis was associated with an aneurysm of the aorta. In 19 cases the process which excited the old pericarditis could not be determined at all, or at least not with certainty. In 9 of the cases the immediate cause of death was an acute croupous pneumonia, and neither history nor autopsy cleared up the questionable cause of the pericarditis. In four cases the death was due to cardiac insufficiency. In the other cases endocarditis, tuberculosis and chronic nephritis were combined in various ways, and in such manner as to prevent any safe guess as to which, if either, caused the pericarditis. The most noteworthy fact in these cases is the large number of deaths caused by pneumonia—9 out of 19.

CONCLUSIONS.

1. Cases of acute pericarditis clinically primary occur, but are rare.

2. Diseases to which pericarditis appears as a complication are in order of their frequency; pneumonia, 34 per cent.; rheumatism, 28.36 per cent.; chronic diffuse nephritis, 11.2 per cent.; tuberculosis, 10 per cent.; sepsis, 4.7 per cent.; aneurysm, 2.6 per cent.; typhoid, 1.7 per cent.

3. The more extensive a pneumonia the greater the danger of this complication.

4. The danger is somewhat greater with left than with right-sided pneumonia.

5. Where only one lobe is involved the danger is least with a right upper-lobed pneumonia, and greatest with a right middle or left upper-lobed pneumonia.

6. With a unilobar pneumonia the chances of a pericarditis are 1 in 40; with a bilobar or trilobar, 1 in 10; with a quadrilobar, 1 in 5, and with a pneumonia of the entire left lung, 1 in 8.

7. The mortality of pneumonia with pericarditis is 92.4 per cent.

8. Rheumatic pericarditis is complicated by endocarditis in 60 per cent. of the cases, i. e., three to four times the normal rate of cases of endocarditis.

9. The danger of pericarditis complicating rheumatism is the greater the younger the individual, and is somewhat greater with males than with females.

10. So far as acute pericarditis is concerned, the site and extent of the endocarditis is apparently of no importance.

11. Pericarditis appears as a complication of all forms of nephritis, but particularly the chronic diffuse nephritis with contraction.

12. It is an extremely ominous thing, for 22, i. e., 81.6 per cent. of the cases died.

13. It is still uncertain whether the pericarditis is toxic or infectious.

14. Tuberculosis excites only one-tenth of the cases, and when one considers the extreme frequency of tuberculosis, pericarditis must be regarded as a rare complication.

15. Pericarditis may be a part of a generalized acute tuberculosis, but is more often the result of a chronic tuberculosis of the lungs or mediastinal glands.

16. Septicemia and pyemia contribute a very considerable number of cases of pericarditis. The primary focus may be remote or close to the pericardium.

17. Aneurysm of the aorta causes 2.6 per cent. of all the cases, a very high figure when one recalls the comparative infrequency of aneurysm.

18. Typhoid fever, which is rarely complicated by inflammation of the serous membranes, other than the peritoneum, contributed 4 cases, which is 1.7 per cent.

19. The cases of obliteration of the pericardium are due to the following causes arranged in order of importance; endocarditis, tuberculosis, chronic nephritis, aneurysm.

20. More than one-half of the cases, in which the cause was clear, were due to endocarditis, or rather to some cause common to both the endocarditis and the pericarditis, and more than one-half of these cases showed a combined aortic and mitral endocarditis.

21. Relatively six times as many cases of obliteration of the pericardium occur with aortic and mitral endocarditis than with either lesion singly.

22. Tuberculosis causes but few cases of obliterative pericarditis.

23. Pericarditis, accompanying nephritis, is not always fatal, but may apparently end in the formation of adhesions.

[Remainder of papers in the Symposium, with the discussion, will follow next week.]

THE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.*

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Until very recently I have performed all extractions of cataract by the combined method, that is to say, with iridectomy, and in a considerable percentage of cases the iridectomy was performed as a preliminary operation from four to six weeks before the extraction was undertaken. This plan was adopted for the reason that I believed the prognosis was better, especially with preliminary iridectomy. For the past few years, prompted by the favorable reports of other surgeons, I have done the simple extraction, but with a few exceptions only in selected cases. The grounds for selection were the absence of any noteworthy pathological history, or discoverable indication of pronounced uveal disease; a promptly reacting iris, a pupil which dilated readily to at least large medium under a mydriatic; and a lens with more or less well-defined sectors and without transparent anterior cortex, that is to say a ripe cataract. A long history of asthenopia, preceding the failure of vision from incipient and immature cataract, a more or less discolored iris, sluggish in its reaction to light and shade, and to mydriatics, white patches on the lens capsule, a dark or brownish lens, injected conjunctiva and swollen caruncles associated with headache, and a protracted ripening of the cataract, furnished a group

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

of conditions which excluded the case from any attempt at simple extraction. Many of the excluded cases came under observation in their early history when it was still possible to study the existing intraocular conditions in one or both eyes. Chorioidal disease associated with vitreous degeneration was frequently found. The degeneration of the lens in this group of cases usually began with a granular, outlined nucleus and disease at the posterior pole, probably of the posterior capsule, to be followed by peripheral spicules and the tardy ripening or opacification of the entire lens; or the anterior cortex remained for an indefinite period translucent and became amber colored. The participation of the uveal tract in this chronic disease process was indicated by the sluggish iris which did not respond fully to the mydriatic and by a chronic dilatation of the anterior perforating ciliary vessels. To attempt to dislodge the lens from the diseased posterior capsule, to force it through the small pupil of an inelastic iris, prone at best to inflammatory reaction from its association with the general uveal disease, thus causing an inevitable traumatism, was regarded as unwise surgery. The compound operation, often with preliminary iridectomy, was therefore adopted in the group of cases more or less accurately described in the foregoing remarks.

TECHNIQUE OF SIMPLE EXTRACTION.

Even in favorable cases the technique of simple extraction is of signal importance. With rare exceptions where the result has been in any respect disappointing it could be traced to wanting docility upon the part of the patient or to a fault on my own part in some detail of the operation. I have not always found it possible to accurately carry out in all its details my own conception of the rigid mechanical and mathematical requirements of a perfect technique. A variety of circumstances are lurking unseen to trip the most wary. A most carefully selected knife for some unaccountable reason proves faulty and disappointing at the critical moment; the slightest change in the location of the cornea in relation to the source of light presents annoying reflexes and adds materially to the deceptive conditions due to the optical or refraction effects of the curved surface of the cornea, and as a result the counter puncture is not exactly as designed; any too vigorous effort to correct the position of the eye by means of the fixation forceps may distort a readily yielding globe, not only producing changed optical conditions in the cornea, which may be deceptive as to the exact location of the knife, but causing the iris to fall in front of its edge. When the possible action of the patient is added to these it is obvious that the realization of a perfectly correct technique is not always obtainable.

The knife I prefer is ground hollow, 2 mm. wide and 28 to 30 mm. long, and I carefully select one with a point not so finely drawn as to be invisible when held before the dark surface of the iris. A too fine point is often responsible for the faulty counter puncture. The puncture and counter puncture are made exactly at the clear limbus, the width of the knife blade above the horizontal meridian of the cornea. The section is then carried upward without deviation to the upper border of the cornea where it is made to dip slightly backward to secure a conjunctival flap. The section is made while the lids are held apart with a soft spring speculum, the eye being fixed with toothed forceps grasping the conjunctiva and subconjunctival tissue at the lower end of the vertical meridian of the cornea near the limbus. An anchor or T-shaped capsulotomy is then made and the speculum removed. The upper lid is raised by an assistant either with the finger or an elevator; the posterior lip of the wound is supported firmly by a horn spatula and the lens caused to present by pressure with the finger below, exerted through the lower lid, which is made to follow the escaping lens with a to and fro movement to secure the escape of any tardy remnants of cortex which may be scraped off by passing through the pupil and wound. No effort is made to immediately replace the prolapsed iris except by a gentle stream of warm sterile physiological salt solution from a fine pointed pipette. If the iris does not return the lids are closed gently and a light rotary massage with the tip of the finger, exerted through the upper lid, and a moment's rest permitted. If any tendency to prolapse remains it will usually be found to be due either to a faulty corneal section, which is shown by a tendency of the wound to gape, or by the collection of fragments of cortex behind the iris, or possibly by a rupture of the suspensory ligament above and the presentation of vitreous at that point behind the iris. In either of the last named conditions gentle pressure backward and downward upon the iris with the round surface of the spatula will often reduce the vitreous or cause the imprisoned fragments of lens cortex to present in the pupil.

In every case where subsequent prolapse of the iris actually occurred or when the tendency to prolapse was manifested by a distortion of the pupil and adhesion of the periphery of the iris to some portion of the wound during convalescence, the tendency was obvious at the time of the operation. Exceptions to this rule are furnished by one case in the following reports when the prolapse was produced on the fifth day, by straining in the attempt to urinate. The operations, with few exceptions, were made under cocain and usually with a dilatation of the pupil by atropia. A solution of salicylate of eserin was uniformly instilled after the last sterilization of the eye and immediately before the corneal section was made. The effect of this is to maintain for an hour or more the contraction of the pupil, and a lessening of the probability of prolapse during the most critical period of convalescence, after which the atropia dilatation is resumed. Irrigation of the anterior chamber for the purpose of washing away any remaining cortex was studiously avoided except in the earliest operations. I prefer to trust to the absorption of small flakes of cortex rather than risk the rupture of the suspensory ligament by protracted efforts for their removal by manipulation or the occurrence of striped keratitis from the irritation of the fluids used in washing out the anterior chamber.

AFTER TREATMENT.

If the iris did not promptly return after the delivery of the lens, or if the pupil manifested any tendency to distortion in the direction of the wound the dressings were not applied immediately. If the tendency to prolapse increased, a narrow iridectomy was made and the case classed with the compound operations. There was cause for regret in every case when this rule was neglected. After thorough irrigation with warm boracic acid or salt solution the conjunctival flap was carefully replaced, the lids of both eyes closed and fixed by strips of isinglass plaster, placed in the form of the letter X.; over these a moist square of gauze and a pad of cotton. This was in turn fastened by a strip of isinglass carried from temple to temple and a second strip placed diag-

onally from the center of the brow downward and outward to the cheek. A knit bandage with tapes was then applied over the eyes and while the tapes were held firmly at the temples by an assistant the ends were carried backward and forced between the pillow and occiput without raising the patient's head and tied in

Name, Age, Volume.	Operation Notes.	Convalescence.	Prolapse.	Remarks and Vision.
1, L. D., age 66. . .	10, 10, '92—Operation smooth.	Without incident. 11, 30, 92—secondary, leaving a large round, cent. p. 5, 15, '93—V. = 6/IX. +12 ⊃ +1 C. 180°.	None	3, 29, '97 - +14 S. V. = 6/VII 1/2.
2, N. Y., age 68. . .	11, 17, '99—Smooth upward section; then patient behaved badly. Lens extracted with loop; some loss of vit. and prolapse of iris.	11. 8—wound healed kindly. Ether administered on second day and prolapse excised and eye did well.	Prolapse excised on second day.	Notes incomplete: good vision.
3, E. A., age 75. Morganian Cat., xiii, 204; illiterate; blind fourteen years.	11. 5, '94—Lens escaped in capsule on completion of section and iris folded itself in upper angle of Ant. Ch., leaving a gibbous pupil, clear and black.	11, 7, '94—no reaction; pupil still gibbous. 11, 14—pupil changed to a flaring coloboma up as after a broad iridectomy. Conj. catarrh. 11, 21—tear duct washed out. 1, 14, '95—Iris is now unfolding itself from above and appears below upper limbus.	None; pupil ovoid.	1, 14, '95—V. = 6/IX.
4, J. C., age 59, Farmer.	10. 23, '99—smooth extraction, small conj. flap; eye closed with pupil slightly ovoid.	10, 25—eye quiet, no reaction. 10, 28—A. C. filled with blood clot and blood on dressings. No pain. Patient thinks he injured eye in the night. 11, 20—blood slowly absorbed, leaving gray capsule. Capsulotomy, leaving clear pupil. 11, 22—no reaction.	None	11, 24, '99 - +10 ⊃ +3C. ax. 180°. V. = 6/VI.
5, M. A., age 66 . .	5, 29, '99 - conj. flap; iris punc. by knife point but disentangled and smooth section made; clear, black central pupil, slight distortion up and out.	No reaction until seventh day. Slight iritis with flushed eye and two synechiæ with strong band across, pupil oval. Capsulotomy with bent keratome. No reaction. 6, 30—capsulotomy.	None.	6, 30; +10 D. V. = 6/VI.
6, C. L., age 66, O. S.	5, 17, '99—operation smooth; conj. flap; clear black pupil, but ovoid, with tendency to prolapse; eserin instilled and light dressing; in an hr. pupil central and nearly round. Eye dressed as usual.	First dressing 16 hrs. after operation; no pain, no puffing of lids. Eye not opened. On 2d day eye opened and iris prolapsed into wound, filling entire section. Spec. introduced, eye washed. Cocain and broad iridectomy made, leaving clear wound and moderate coloboma. No reaction, eye healed without incident.	Prolapse on second day excised.	Much opaque cortex on 2d d.; prob. post. which prob. coll'ct'd behind iris, causing prolapse; 6, 19, capsulot'my; V. = 6/XII.
7, C. L., age 66, O. D.	11, 13, '99—conj flap; opr. smooth; pupil clear and black, slightly ovid; upper rim drawn slightly upward, tending to prolapse.	Eye recovered without reaction, but upper margin of pupil drawn upward, but entangled in wound, which is smooth.	None, but pupil ovoid.	11, 30, '99; +10 ⊃ +2 C. ax. 170°. V. = 6/IX.
8, A. G., age 70; high grade imbecile.	10, 9, '99—ether anes.; conj. flap; profuse bleeding into A. C.; central round pupil.	No incident, but capsule gray.	None	12, '99; +10 ⊃ +2 C. ax. 90°, V. = 6/IX.
9, J. T., age 70. . .	3, 6, '99—Operation smooth; conj. flap; round, central pupil.	No reaction.	None	3, 15, '99; sees time on watch; 4, 19, '99, +2 ⊃ +3 C. ax. 165°. V. = 6/XII.
10, A. W., age 67. .	11, 28, '98—smooth extraction; pupil black, slight notch above.	No incident; some cortex in capsule above and below, clear black center.	None	V., no record.
11, S. R., age 58; coal worker.	11, 28, '99—operation smooth; central, round, clear pupil,	12, 9—eye white.	None	12, 9. '98; sees time on watch; 12, 16, '98, +8.50 ⊃ 5.50C. ax. 180°. V. = 6/VII - 1/2.
12, L. C., age 65. . .	11, 4, '98—Operation smooth; large conj. flap. (Paralysis.)	11, 18, '98—eye healed without reaction, round central pupil; but on eighth day lost power over left arm, which spread to complete paralysis of left arm and leg. Sees time on watch.	None	P. round, black, reacting to light: sees time on watch; sent home without glass.
13, R. W., age 49. .	10, 10, '98—too small section; pupil central but slightly ovoid upward.	10, 14—eye red; much opaque cotex and gray membrane; 12, 12—secondary.	None	2, 23, '99; +10 ⊃ 5 C. ax. 25°, V. = 6/V.
14, A. H., age 74. .	12, 13, '97—conj. flap; smooth sect.; patient squeezed and ext. lens immediately after capsulotomy; clear black pupil; slt. tear in upper rim.	12, 17—some conj. injection and delicate adhesions to capsule; 12, 27—eye white.	None	V., no record.
15, M. B., age 60. .	11, 15, '97—Operation smooth; round, central pupil; clear.	11, 17—no reaction; 11, 24—gray membrane; 1, 3, '98—secondary.	None	1, 10, '98; +10 ⊃ +2 C. ax. 135°. V. = 6/VI.
16, T. W. K., age 60	Some loss of vitreous.	Periphery of iris adherent. Hemorrhage in A. C., oval pupil.	None	V. = 6/LX.
17, L. A. H., age 66; O. S.	Tough capsule; some cortex remains; 11, 1, '97.	Mild iritis with synechia on eighth day. Much opaque cortex; 1, 10, '98—capsulotomy.	None	1, 26, '98; +10 ⊃ +2 C. ax. 90°. V. = 6/VI.
18, A. R., age 49; eye had been injured.	11. 15, '97—small nick in extreme periphery of iris while making sec.; eye squeezed by patient, suddenly extruding lens after capsulotomy; round, central, black pupil; no tendency to prolapse.	11, 17—A. C. restored; eye not red; 11, 22—says he "banged" his eye in the night; small cyst of conj. above section; bandage; 11, 26—small synechia capsule; 1, 3, '98—capsulotomy; 1, 7—marked reaction and iritis; cold compresses.	None	4, 4, '98; +10 ⊃ + 2C. ax. 180°. V. = 6/IX.
19, G. H., age 50; O. S.	10, 18, '97—tough capsule; soft cortex; hard nucleus; cort. removed with spoon; round, cent., black p.	No incident; 11, '97—secondary; central pupil; 11, 8, '97 +6 ⊃ +4 C. ax. 90°. V. = 6/XXX.	None	1, 12, '98; +10 ⊃ +2 C. ax. 180°. V. = 6/XII.
20, R. McN., age 68	3, 29, '97—large amount of soft cortex delivered with a spoon; some retained; bead of vitreous presented, but none lost; round, central pupil, upper half black.	4, 2—A. C. restored; eye too red; opaque cortex fills pupil; 4, 5—pain, gray point in cornea at inner angle of wound; later a gray membrane hung from this; conj. chemotic and c., but slowly subsided, leaving a slight pouting of wound at inner angle, pupil drawn toward it; iris tucked into angle but not prolapsed into wound as far as can be seen.	None	1, 14, '97; +10 ⊃ +2 C. ax. 150°. V. = 6/LX. 4, 19, '97; V. = 6/XX.
21, O. S., I. S., age 55; washerwoman	12, 14, '96—tough capsule; lens ext. in capsule with loop; no vit. lost	12, 16—A. C. restored and eye quiet; stri. keratitis along border of section above; 4, 26—capsulotomy.	None	1, 14, '97; +10 ⊃ +2 C. ax. 150°. V. = 6/LX. 4, 19, '97; V. = 6/XX.
22, O. D., I. S., age 55	5, 31, '97 - extraction simple, no notes	Iritis, synechia, gray capsule	None	7, 16, '97; +13 = 6/XV. Capsulot y advised; but did not return.
23, T. B., age —; O. S. Comp. ext., V. = 6/VI. Iris fell before K.	3, 22, '97—Operation smooth; central, round, clear pupil.	No incident; 4, 26, '97 - capsulotomy.	None	4, 30, '97; +9. V. = 6/IX.
24, O. D., P. C., age 51.	11, 16. '98—iris fell before knife at extreme periphery, making small opening; otherwise opr. smooth; large amt. wht. flocculent cortex.	No incident	None	11, 25, '98; +9 ⊃ 2 C. ax. 60°. V. = 6/XV. 1, 4, '97; +11 ⊃ +1 C. ax. 30°. V. = 6/XII.
25, J. McG., age —; O. S. fell before K. and made iridectomy.	10, 9, '96—lens found app. dislocated, when capsulotomy was attempted; ball soft, but lens presented by pressing on ball below and was delivered easily; clear, blk., cent., rd. pupil; no tendency to prolapse.	No incident; 11, 13, '96—capsulotomy	None	11, 23, '96; +10 ⊃ +1 C. ax. 180°. V. = 6/XII.
26, J. McD., O. D..	2, 3, '96—smooth extraction; central, round, clear pupil; counts fingers.	No incident until fifth day; some injection of conj., and on seventh day slight synechia to capsule.	None	2, 28, '96; +12. +1 C. ax. 115°. V. = 6/XII.
27, O. S., J. P. R., age 52.	11, 25, '95 - operation smooth; small rupture in upper rim of pupil by escaping lens; no tendency to prolapse; small, clear, central pupil; round, except small notch above.	Recovery without incident.	None	4, 5, '96; +10 ⊃ + 1 C. ax. 180°. 4, 29, '96; +11 ⊃ 1 C. ax. 15°. V. = 6/VI. 2, 6, '99; not poss. by ordinary observ. to tell operated eye. V. = 6/V.

Name, Age, Volume.	Operation Notes.	Convalescence.	Prolapse.	Remarks and Vision.
28, O. D., G. W. H., age 58; O. S., opr. on by Dr. Norris at Wills' Hosp. 4 yr. ago. V. = 6/XXI.	12, 16, '95—Smooth extraction; no incident; round, central pupil.	12, 30, '95—eye shows some conj. injection; no iritis Sees time on watch.	None	12, 30, '95; later V. = 6/VI. Returned in '97 with opaque capsule and reduced V. Secondary oper. fol. by panophthalmitis and loss of eye.
29, O. S., J. J. Connor, age 51.	11, 25, '95—smooth, round, clear central pupil.	Without incident; 3, 21, '97—capsulotomy. V. = 6/21. .	None	+11 = 6/VI,
30, Mr. Hart. . . .	Feb., '96—operation smooth; central, round, clear pupil.	Small hemorrhage on fifth day in A. C., but rapidly absorbed.	None	+13 ⊂ +1 C. ax. 10°. V. = 6/V.
31	Operation smooth; central, round pupil.	Catheter necessary; tried to escape it by getting out of bed on the fifth day; pain in eye while straining to urinate causing prolapse of iris.	Prolapse while straining to urinate 5th d.	V. = 6/XII.
32, O. S., Mrs. C. L. W., age 61.	5, 14, '00—smooth operation; clear, central, round pupil.	5, 16, '00—A. C. restored; 5, 21, '00—eye getting white; some adhesions between caps. and iris pupil; dilates irregularly.	None	6, 15, '00; +11 ⊂ +2.50 C. ax. 1. V. = 6/VII −1/2
33, A. O., age 68. .	11, 19, '00—opr. smooth, except upper rim of p. caught in removing cystotome; spec. removed; lens app. settled back, and in escaping was preceded by small amt. of very fluid vit, leaving part of lens at inner side p., deeply placed; eye closed, fearing greater loss of vitreous.	11, 20, '00—A. C. restored; 11, 23—eye doing well, no reaction, some swelling of conj. flap; outer half of pupil clear and black. 11, 26, '00—eye almost white, but much bulging of conj. flap and app. gaping of wound under it; pupil round; compress bandage; 1, 18, '01 cataractus mass slowly absorbing; 3, 15—cortex almost disappeared.	None	6, 15, '91; +11 ⊂ +2.50 C. ax. 10°. V. = 6/VII−1/2.
34, O. D., R. F., age 57.	11, 19, '00—smooth; lens extrac., leaving some soft cortex; patient turned eye strongly downward, rupturing the susp. and causing a gush of fluid vitreous; eye closed with round, central pupil.	11, 21—eye doing well; 11 23—some pain in night and morning; hemorrhage in A. C.; 11, 26—eye almost quiet; large, dark blood clot in lower angle of A. C.	None	1, 2, '01; +10.50 ⊂ +4 C. ax. 180°. V. = 6/V ?
35, Mrs. S. W., age 70.	11, 19, '00—smooth; conj. flap; anchor section in cap.; lens delivered, leaving much soft cortex, which was removed with spoon.	11, 26, '00—without incident; some pouting of conj.; white band in capsule; central, round pupil; 12, 10, '00—band cut in two.	None	12, 17, '00; +9.50 ⊂ +1.50 C. ax. 130°. V. = 6/VI.
36, O. S., J. L., age 67.	12, 3, '00—(dull knife) pupil remains oval, up and out.; a few flakes of cortex in A. C.	Without incident	None	12, 21, '00; +10 ⊂ +1.75 C. ax. 180°. V. = 6/VI.
37, M. P., age 68. .	Opr. smooth; small conj. flap; large quant. of soft cortex fol. a large lens; small, central, round pupil.	3, 1, '01—Capsulotomy	None	V. = 6/VII½.
38, D. W., age 61. .	4, 1, '01 Opr. smooth, small amt. of gray cortex in a central, round p.; slight tendency to become irreg. at pupillary margin; becomes entirely round on stroking with lid.	Iris adherent; capsulotomy; sees time on watch; pupil oval.	None	4, 15, '01; V. = 6/IX. Before discharged sud. attack of Iritis, fol. by steamy cornea and increased tens.
39, J. P. R., age 54, O. D.	Feb., '99 operation smooth; central, round black pupil.	Eye recovered without reaction; clear, round pupil . .	None	Mar., '99; +10 ⊂ +1 C. ax. 180°. V. = 6/V.
40, R. F., age 57. . .	5, 6, '01—ether anesthesia; oprera.. smooth; central, round, p., gray cap.	Recovery without incident; round, central pupil; small gray band diagonally across it.	None	5, 27, '01; +11 S. V. = 6/XV.
41, R. W., age 50; O. S.	Operation smooth; central, round, black pupil.	Recovery without incident.	None	+11 ⊂ +3.75 C. ax. 150° V. = 6/VII.

front. The operations were invariably performed on the bed the patient was to occupy subsequently so that the necessity of moving from operation table to bed was avoided. These details I believe to be important since the inevitable muscular tension due to raising the head while applying the roller bandage, or in moving the patient to the bed, favor the reopening of the wound and consequent prolapse of the iris. It is probable that most prolapses occur at this juncture.

The following morning the bandage was removed and the lids inspected. If there was no swelling or undue discharge the isinglass strips were not disturbed. The bandage was reapplied and allowed to remain for twenty-four hours. The dressings were then removed, the lids gently opened, the eye irrigated with warm boracic solution, a drop of atropia instilled and after inspection the bandage reapplied, omitting the isinglass strips from the lids if the anterior chamber had refilled.

The tabulated histories of 41 cases, all occurring at the Wills Eye Hospital, are included in the report. The following is a summary: The operation was smooth, that is to say, without noteworthy incident in 31 cases, and complicated in 10. Convalescence progressed without incident in 22 cases. It was complicated as follows in 19, prolapse of the iris in three, namely, Cases 2, 6 and 31 of the series.

CASE 2.—The patient behaved badly; the lens was extracted with the loop with slight loss of vitreous, but eye closed with a nearly round pupil; wound healed promptly, but the iris was found prolapsed on second day and was excised. On discharge from the hospital, V. = 6/X11.

CASE 6.—Operation smooth, but pupil ovoid. Eserin was instilled and a light dressing applied. In an hour pupil was black, central and nearly round. On second dressing iris was found prolapsed and was excised. There was much opaque cortex, the collection of which back of the iris while still transparent at the time of operation had become opaque, its swelling probably accounting for the tendency to prolapse. V. = 6/X11 at time of discharge from the hospital, with some gray capsule.

CASE 31.—Operation was smooth, leaving a clear, round central pupil. It was found necessary to empty his bladder with the catheter during convalescence. In trying to escape this on the fifth day during the absence of the nurse from the ward he sought the urinal and while straining to urinate felt a sudden pain in the eye. A small prolapse of the iris into the nasal end of the wound was found. Although the eye was white before the accident, it became red and convalescence was protracted. V. = 6/X11 at time of discharge from the hospital. It will be observed that in two cases the prolapse was foreshadowed at the time of operation by the ovoid pupil and a tendency to prolapse. In one of these the patient acted badly. It would have been better to have performed the iridectomy in both cases at the time of extraction.

In the third case the prolapse was obviously due to the patient's imprudence. The pupil was oval in five cases from adhesion of the periphery of the iris to some portion of the wound. In the remaining 30 the pupil was round and central. Conjunctival catarrh occurred in three cases. Iritis, usually of a mild type, but resulting in adhesions to the capsule and a somewhat protracted convalescence, occurred in eight cases, commencing usually from the sixth to eighth day of convalescence. In all of these the capsule became gray and secondary operation was required. Notable loss of vitreous occurred in but one case and then was due to the want of self-control by the patient. There was slight

loss in two other cases, in neither of which did it lead to any notable modification of the result. There was hemorrhage into the anterior chamber three times, twice from injury, once without obvious reason. In the traumatic cases both recovered without permanent injury; in the third case the hemorrhage was profuse, quite filling the anterior chamber and the patient recovered with V. = 6/LX.

The nasal end of the wound became infected in one case, but prompt treatment arrested the progress of the ulcer, but left the periphery of the iris adherent to the wound at that point causing a slightly ovoid pupil.

Secondary operations were performed in 14 cases. An exceptionally favorable result was obtained in one patient. Both eyes were operated upon at different sittings resulting in both in central, round, freely acting pupils and V. = 6/V in each eye. He enjoys binocular vision both for distance and in reading. But one loss is to be recorded. The patient left the hospital with V. = 6/ VII ½, but returned in two years with vision sunk to 6/XV due to a gray capsule, following "a cold" in his eye. A capsulotomy was performed followed by no reaction and V. rose to 6/VI. He received his discharge from the hospital on the fifth day with the eye white. He returned the following day with the eye flushed and painful. There was a gray point at the site of the corneal puncture which was rapidly followed by purulent panophthalmitis and loss of the eye.

The visual results were as follows: V. = 6/V in 5 cases; 6/VI in eight cases; 6/VII ½ in 5 cases; 6/IX in seven cases; 6/XII in seven cases; 6/XV in 2 cases; 6/XX in 1 case; 6/LX in 1 case; good in 2 cases; no record in 2 cases; total, 40 cases.

The acuity of vision in many of the cases was recorded at the time of their discharge from the hospital. It is probable that later study would have shown better vision. In some instances when V. = 6/XII secondary operations were not attempted since that vision was sufficient for gross pursuits and further risk was not deemed advisable.†

TEMPORARY CLEARING OF A CATARACTOUS LENS.*

HIRAM WOODS, JR., M.D.

BALTIMORE, MD.

The writings of Risley, Jackson, de Schweinitz, Weeks, Knapp, Pyle and others, have introduced into the management of partial lens opacities considerations which make the old and easy classification of incipient and ripe cataracts unsatisfactory to the observer, and unjust or cruel to the patient.

A few clinical truths seem to have been firmly established. We know that the situation of early opacities is of prognostic importance; that senility is neither the only nor the most important factor in etiology of so-called primary senile cataract; that the uveal tract, especially the choroid, should be minutely studied; that "spontaneous cures" now and then occur from absorption, with or without capsule puncture, or from luxation; that hygienic, optical and medicinal care are of importance, and seem to retard progress of lens-clouding: that ripening operations are unreliable, and probably entirely unnecessary; that if the opacity interferes with vision to a great degree, and is non-progressive, extraction of so-called immature cataracts is often a safe procedure. All these things must be considered in every case of partial lens-clouding. But there is coming up in late years another question which has, at present, a greater social than scientific aspect. I mean the usefulness of the alleged cures for cataract without operation. I am not aware of any well authenticated observations, from men whom we instinctively believe, tending to prove that massage, electricity, or "absorbing drops" can be depended upon to give results obtained by inventors of the method, when used by others. Yet patients sometimes bring us accounts of alleged cures. We attribute them to the use of atropia or eserin, to a faulty diagnosis or intentional deception. Doubtless one or another of these explanations covers the great majority of such cases. Yet we know that lens opacities often follow or accompany other eye lesions which resolve. Fuchs speaks of clouding of the lens as a symptom of choroiditis, while Dr. Risley's paper, published in 1889, impresses the fact. A few reliable reports of clearing of lens-clouding are found. At the meeting of this Section a year ago such cases were mentioned and are recorded in THE JOURNAL, AMERICAN MEDICAL ASSOCIATION, of Dec. 15, 1900. Dr. Bates of New York saw two cases cured, and one greatly improved under treatment by Dr. James E. Kelly. Save that the patients said they were made to drink a great deal of water, no clue is given to the treatment. A still more important observation was that of Dr. Ring of Philadelphia. He saw lens opacities disappear in a specific patient under iodid of potassium. Such cases suggest the question: Is there a kind of lens-clouding which improves as the underlying cause, probably choroiditis, gets better? If, following out the reasoning in Dr. Weeks' paper a year ago, "the development of cataract is due to a departure from the normal in the nutrition of the lens," and if "hyperplastic or degenerative changes" are thus brought about, will these changes in the lens improve as the cause of malnutrition disappears? Consensus of opinion is against such occurrence. Dr. Risley,[1] discussing the papers of de Schweinitz and Weeks, after tracing the etiologic connection between choroiditis and cataract, said: "I argued that if I could arrest the cause by treatment, I could probably arrest the progress of the opacity. . . . We never see the slightest disappearance of an opacity in the lens. When an opacity is formed in the lens, you can rest assured it will remain there." Dr. de Schweinitz in his paper[2] quotes Alt: "The choroidal disturbance yields, but the formation of the cataract goes on undisturbed in its slow and steady progress." In his remarks, Dr. Risley traced the association of choroiditis with commencement of lens opacification. He argued that the rest, obtained by partial exclusion of light, caused the disease of the choroid to subside. Thus the lens opacity becomes non-progressive. It seemed to me, after reading these papers, that the case herein reported was sufficiently important to go on record. It is not one of spontaneous recovery without operation, for it eventually came to operation; but extensive old choroidal disease existed when lens opacities were first noticed; there was a quiescent period of nearly five years during which the choroidal disease remained inactive, and the lens opacities non-progressive, or nearly so. It was impossible to secure rest to the eyes, almost unremitting near work continuing. The cataract, seen

† I wish to acknowledge the efficient aid of Dr. E. S. Saylor in collating the histories, and in preparing the accompanying table of cases.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

1. THE JOURNAL A. M. A., Dec. 15, 1900, xxxv, p. 1532.
2. Ibid., Dec. 8, 1900, p. 1467.

after an interval of eighteen months, was apparently mature. In six months more it partially cleared, and an area of recent choroiditis was found. With increased exposure to light, through this partial clearing, and at least a moderate participation in work as possible causes, there was renewed advance of opacification, though no new chororoidal disease developed.

Mrs. E L., 72 years old, first consulted me April 9, 1890. She had been nearsighted all her life, and was wearing —9 D. for near, with occasional use of —16 D. for distance. The latter gave about 4/200 in each eye. Without glasses Mrs. L. read Jaeger 1, at two and a half inches with the right, at a perceptibly shorter distance with the left eye. Her reading lenses increased this distance to 5 inches. Beyond this, she could not read. Mrs. L. has devoted her life to literary work. Her capacity for work is almost incredible, considering the condition of the eyes. Preferring to work without glasses, her reading and writing have been done at such distance as, to use her own words, "seriously to interfere with the integrity of her nose." I could not improve vision, her —16 D. correcting all the myopia. Fundus of each eye showed large but old and limited choroidal atrophies, mostly in the neighborhood of the papilla. The foveal region was good. The left lens showed an axial nuclear opacity, rather a central deep cloud than spoke-like striations. In the lower and external periphery of both right and left lenses there were opaque streaks. Over two years—to August, 1892—passed before my second examination. A central deep cloud in the right lens was the only change observable. In July, 1893, distant vision was the same as three years previous. The left eye had lost near vision from 1 to 6 Jaeger. The central haze noticed in right lens a year before, and the opacities of the left lens seen at the first examination were unchanged. So was the fundus in each eye. After July, 1893, I did not see Mrs. L. until Dec. 31, 1894. Her daughter, a physician, had reported to me from time to time. Her reports were that her mother was doing constant work; that it was useless to try to stop her; that the left eye was practically blind, and that Mrs. L. was not coming to the city to see me until she was ready for operation. She came, however, for examination the last day of the year, 1894. No change was noticed in the right lens. The left eye had only l.p. January 1, 1895, full homatropin dilatation revealed a thin rim of red reflex at the equator. The rest of the lens had lost its transparency. Its color was reddish-yellow or amber, much darker than is ordinarily observed. No sector reflex was obtainable by oblique illumination, nor iridic shadow. I was careful to exclude an anterior vitreous opacity. Operation, though urged, was postponed until the summer, on account of the expected absence of Mrs. L.'s daughter. Six months later, in June, 1895, I went to the country home of Mrs. L. prepared to operate upon the left eye. A letter from her daughter to the effect that her mother's eye was free from conjunctivitis or other contra-indication was the only news since the examination on January 1. Mrs. L., on meeting me, wanted to know if cataracts ever cleared up. I made the orthodox reply, and went on with my preparations. She then told me that for some time she had been seeing better with the left eye, and counted my fingers at four feet. Ophthalmoscopic examination showed the fundus clearly. The axial opacity seen in the beginning and the inferior external striations on the equator were unchanged, but between the central cloud and equator the lens substance was transparent. Under homatropin a careful examination was made of the fundus. A small extravasation was found a little to the foveal side of the papilla, and below the horizontal meridian. This was subretinal. The vitreous showed a number of small muscæ. The latter and the extravasation were new. It seemed reasonably clear that an acute choroiditis had ensued which I had had no chance of observing; that the reddish-yellow lens opacity was secondary to it, and that this opacity had cleared with recovery of the choroiditis. The right eye had not changed. Three days later in my office with dilated pupil, the left eye had 10/200 d.v. with correcting glass, against l.p. six months previous, and read 4 Jaeger. I now watched the case as regularly as I could. With undilated pupil, after two months, the fundus was less clearly discernible. On June 16, 1896, definition was difficult even with dilated pupil. Vision was reduced to counting fingers at 18 inches. More hard work was in contemplation, and on July 14, 1896, I removed the left lens with iridectomy. At the time a faint outline of the fundus was discernible, through dilated pupil. There was less opacity than in January preceding. The color of the nucleus after removal was dark red. Considerable soft substance was left, the anterior chamber becoming filled with it. This was soon absorbed. A capsulotomy was done in October, 1896. Ultimate result was, and still is, 20/30 distant vision with +2 Sph. ⌒ with —7 Cyl. Ax. 90°. Plus 7 Cyl. Ax. 180° enables her to read and write at ordinary distance. The right lens has undergone no change since 1896.

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DISCUSSION ON PAPERS OF DRS. RISLEY AND WOODS.

DR. F. C. HOTZ, Chicago—The subject which Dr. Risley brings before us is one that has been under discussion for a great many years. It is a debated question of the simple or combined extraction of hard cataracts. We know the simple extraction was abandoned at its time on account of the frequent losses by suppuration of the cornea and the place of incision was selected which was less susceptible, but making an incision too far in the periphery made it difficult to extract the lens without an iridectomy. Since we know the true nature of suppuration, and since we know how to prevent infection during operations, the peripheric incision has been abandoned and the cut placed again in the cornea, but not so far as previously. The advocates of a return to the simple operation have sometimes been so very bitter in speaking about those favoring the combined extraction that it is really refreshing to listen to such a paper as we have had this afternoon and to hear from a gentleman known to be so conservative, and who always listens to and studies both sides of a discussion. In passing before my mind the papers and discussion published on simple and combined operations I have often wondered whether it was worth while spending so much time and brain matter trying to settle the question of which operation should be done. I think if we get down to actual facts the results in both operations are about even and the apparent advantages of the one method are counterbalanced by some advantages in the other.

The combined operation is applicable to all cases; the delivery of the cataract is easier and the removal of cortical remains can be done more thoroughly. The simple operation can not be done under certain conditions, as rigid iris and posterior synechiæ; it leaves the pupil round and mobile, but always exposes the eye prolapse of the iris with all the serious consequences of this accident. If one has lost an eye successfully operated on, by this accident one may well ask himself the question whether the advantages of the circular pupil are so important as to subject the eye to any chances. Our first duty toward our patients is to employ the safest method, and as long as we can not prevent the occurrence of prolapse of the iris I personally favor the combined operation.

DR. C. F. CLARK, Columbus—I select my cases, and prefer always the simple extraction when I can do it, but I have such deep admiration for anything that Dr. Risley does or says upon such a subject that I was rather surprised at one point in his remarks. I have for years followed the plan of thoroughly irrigating the anterior chamber and have never had occasion to regret it. There must be some inconsistencies in the technique by which different men obtain their results; this is probably due to the personal equation, for I find a great many men opposed to this method. I use the pipette with salt solution and get out very thoroughly all the cortex I can after using the cystotome to outline the central portion of the capsule, which I remove as often as possible, stirring up and removing as much of the cortex as I can before removal of the lens and then irrigate again. I obtain good results and see no reason why irrigation should not be done. If there is any strong argument against this method based upon experience with it it would be a great pleasure to me to hear that argument.

DR. EDWARD JACKSON, Denver—I think there is no contest between the simple and combined extractions. The question is: Shall we ever do a simple extraction, and if so in how many cases? I do not know of any one who would not do an extraction with iridectomy in certain cases. I do the simple extraction largely because I believe it is the simpler operation. It presents the difficulties of a new operation to one not familiar with it. But beyond that I think it does not present any greater difficulties than the combined extraction. Furthermore, I do it because I think it gives better visual results. By that I do not mean that the average of vision as tested with the test card is essentially different from that obtained after the combined extraction. But there seems to be the same difference between the results of simple extraction, and an extraction with an iridectomy of considerable size, as between the vision with correcting lenses when the eye is under a mydriatic and when it is not. You may get as full vision under a mydriatic, but anyone who has experienced it knows that it makes a great deal of difference in the comfort with which he sees the same letters. I think the amount of light which does not contribute to perfect vision, entering the eye after extraction with iridectomy, is on the average very much greater than after simple extraction. I have had a number of persons who after simple extraction did not habitually use their glasses for distant vision. They had small pupils and saw well enough without them, although they had required at the test case just as strong glasses, 10 or 12 diopters, as is usual. That is not the most important result, to be aimed at for itself; but it indicates somewhat the practical value of the resulting vision. I would like to add, as contraindications to simple extraction, special prominence of the eyeball, and the habit on the part of the patient of nipping the eyelids together. In such cases there is great danger of prolapse. Among negroes, particularly, with strong lids and prominent eyeballs, the danger is very much greater than among Caucasians.

As to the matter of irrigation, I agree with Dr. Clark that I have never seen any reason to regret having used it, though I have seen the irrigator do harm when it was awkardly used. For five years, however, I have used it in but few cases, and now I find myself going to operation most frequently without my Lippincott syringe. This is because I think the cases have cleared up as well without as with irrigation.

DR. J. L. THOMPSON, Indianapolis—It is useless to consider whether we will do simple or combined operations. That has been argued over and over, but it is my opinion that the gentlemen will come back to combined operations as they get fewer cases to operate on. We know what a beautiful thing it is at first, but when we have a prolapse a few days afterwards, we wish we had made an iridectomy. I have never lost a case after a preliminary iridectomy. We have a great many farmers to operate on in my neighborhood and from their life in the bright sunshine they acquire the habit of squinting the lids so that it is difficult to avoid doing an iridectomy even while making your corneal incision. We should never attempt to do a simple extraction on a colored woman—with the man it is all right—but with the woman their natural tendency is to yell immediately after an operation just as it is after a baptism.

DR. HIRAM WOODS, Baltimore—I would like to ask Dr. Risley to say something about the use of eserin immediately after the operation. There has been considerable discussion over the question whether the contraction of the pupil by eserin does not give a larger surface of iris to be washed out by the secretion of aqueous humor and for that reason it has been proposed to use atropia. I notice that Dr. Risley used eserin in all his cases. When I saw the title of Dr. Risley's paper I looked over my last fourteen cases of simple extractions and found that I had one hernia. Atropia was used always before operation and nothing afterwards. The eye is inspected on the second day, and atropia used if the corneal wound has closed without protrusion of iris. The crucial feature, it seems to me, in the question of simple extraction is careful study of the eye condition before operation.

DR. RISLEY, in closing—As stated in the paper, I abandoned irrigation because I thought it was harmful. I am, however, free to admit that the correctness of this opinion, like many others we adopt as the result of daily observation, is difficult to demonstrate. It is nevertheless true that since abandoning irrigation in perfecting the toilet of the eye I have had less trouble from prolonged redness of the eye and fewer cases of striped keratitis. Dr. Jackson remarked that he was no longer careful to have the irrigation syringe at hand, a fact which may possibly be explained by some doubt in his mind also as to its necessity or expediency.

In answer to the inquiry regarding the use of eserin, mentioned in the paper, I will say that I always operate for extraction with a dilated pupil. At the beginning of the operation a few drops of eserin solution, ½ gr. to the ounce, are instilled. The effect of this is to keep the pupil contracted for an hour or more at the most critical period for the occurrence of prolapse of the iris. After the wound is closed and the anterior chamber partially restored, which probably occurs in most cases within the first hour, the atropia reasserts its sway over the pupil.

I was much interested in Dr. Wood's paper. I regard his case as an excellent demonstration of the correctness of the views expressed in my paper, to which he referred, "the etiology of incipient cataract." I have not always found it easy to say that a given gray opacity was situated in the posterior cortex of the lens, since disease of the anterior portion of the vitreous, directly back of the lens, may present much the same appearance. Disease of the uveal tract with vitreous haze may be associated with opalescence and swelling of the lens and peripheral spicules of opacity. I have again and again seen the opalescence, and swelling of the lens, together with the vitreous haze clear up under treatment, with great improvement of vision, but I have never seen an opaque spicule disappear, a statement which, as I remember the statement in Dr. Wood's paper, is borne out in the history of his case.

Treatment of Stammering.—An editorial in *Medicine* for September states that all that is necessary to cure stammering is to teach the patient to breathe correctly. In the majority of cases the stammerer is simply affected with a want of promptitude in the vocal mechanism. He attempts to speak when there is no air passing through the larynx, and consequently no voice. It is only after a number of grimaces and false starts that he finally brings into action the muscles of respiration and succeeds in passing a column of air through the larynx. All that is necessary is to teach him to properly vocalize, namely, to expire evenly, producing a tone with the larynx to which is superadded a position of the oral mechanism necessary to produce the sound required. Attention should never be directed to the mouth, always to the respiration. It is a mistake to suppose that stammering will be outgrown. When patients recover it is due to their conscious efforts to overcome the defect, rather than to any natural tendency to its disappearance.

THE ENUCLEATION OF THE EYE IN TWO MINUTES BY A NEW METHOD, WITH DEMONSTRATION.*

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The realization of the occasional need for simplifying this operation and of making it quicker, whilst at the same time preserving an equally good stump, led to the development here described.

The classical enucleation is that of Arlt where the conjunctiva is incised around the periphery of the cornea and dissected back, in fact deliberately turned back so as to expose the tendons, which are raised on the scissors and snipped in the succession, of one lateral and then two recti in the vertical plane preceding the nerve section. Bonnett also dissects the conjunctiva, raises the tendons on a hook and cuts all of the recti before severing the nerve. Knapp follows Arlt, with the exception that he does all his dissection on the hook. Arlt's procedure is deservedly the classical one, and will probably be the one followed in nearly every suitable case by nearly every operator inasmuch as the scissors find the tendons as well as the hook and cut them in addition. If the preliminary dissection of the conjunctiva as a separate step made all around the cornea in the above operations could be dispensed with, and Arlt's use of the scissors to find and cut the tendons at the same time be made to go a step further and include the conjunctiva too, would it not be an improvement? We call his operation the classical one because after his circular severance of the conjunctiva he gets his forceps fixed in a rectus tendon with one hand whilst with the other the scissors find and snip accurately and quickly the tendons that many operators probe for with a hook first, find, lay the hook down, take up the scissors, cut and so on for each tendon separately.

It is only in the intact eyes that my operation is applicable, but in them the operation differs in the elimination of the preliminary dissection of the conjunctiva in the above common operations. So far as I can find, only the method known as the Vienna method can be urged as identical. That it may be compared I will quote in full the description of it written by Kollock,[1] of Charleston:

"The conjunctiva is opened near the outer or inner margin of the cornea and dissected away over the attachment of the rectus muscle, which is caught up and divided. The scissors are then passed rapidly around the ball, dissecting it from the orbital tissue until the nerve is reached and divided. The arms of the speculum are opened and pressed back into the orbit, to force the ball from the socket. The conjunctiva, muscles and orbital tissues are then easily divided by rotating the ball." "A careful reading of this will show that the nerve is divided before any muscle but the internal or external rectus. These explanations of the methods heretofore used will, I trust, show that the following description has some points about it that differ from the conventional."

The technique that I hope saves time and injury is in detail as follows: A curved needle with a strong double thread is passed well into the scleral tissues to give a stout hold on the eyeball. The conjunctiva was snipped vertically over the insertion of the internal rectus. The lower blade of a half-curved pair of scissors is passed under the tendon and is raised into view.

The tendon, capsulo-bulbar fascia, trabeculæ, subconjunctival connective tissue and conjunctiva, incised at one time, not quite to the end of the scissors. The lower blade, still in the capsular space, is advanced under the superior rectus and a similar cut made, the superior oblique and tissues over it next. The lower blade of the scissors is now carefully shifted downward and inserted under the inferior rectus, which with the inferior oblique is similarly divided. The bulb can now be rotated outward, and one cut for the nerve and one for the external rectus and tissues over it completes the operation.

There has been no preliminary dissecting up of conjunctiva, no feeling around with a hook, no indefinite snipping in a bloody, obscure field. All operations done with clean, clear cuts are better than if done with a multitude of small piecemeal ones.

If it is possible thus to obtain a similar result with an operation that eliminates a great deal of disturbance of the tissues, it thereby is valuable where, by reason of panophthalmitis we hesitate to enucleate because of the creation thereby of an immense absorbing surface. In cases where a prolonged waiting on phthisis bulbi is our patient's only chance for relief, as we decided because of this fear to create a large absorbing area, the old conjunctival dissection and hooks produced a danger to the meninges; this clean cutting will render possible to enucleate without such danger.

The element of speed is another point I want to call your attention to, and it can be shown to be valuable in some emergencies by a private case. This was a case of absolute glaucoma of two years' standing, that had been treated by hypodermics and a prescription of "papine." The patient came from the interior of the state where the local physicians could not obtain a consultation with an ophthalmologist.

When I found that the morphin or some other cause had given her a functional heart disease, viz., an intermittence varying from one in four to one in thirty, according to the time of the last dose of papine, we saw that a long operation would be unsafe. In the first stage of anesthesia holocain was dropped on the conjunctiva and just before incising, the suprarenal extract. This hurried the sensory paralysis and provided against blood obscuring the field. Instead of the thread, an artery forceps was fastened to the stump of the cut internal rectus tendon, and here the anesthetist made me stop, as the pulse was intermittent and thready. Repeated attempts to proceed had to be abandoned, and only by the most careful watching with the phonendoscope over her heart and one tube in the anesthetist's ear and the other in mine, could we decide to proceed. The eye was taken out in about one and a half minutes, as near as we could decide, and in about ten cuts of the scissors. The patient revived in a few minutes, and she left for home on the fourth day relieved.

The urging of the necessity of preserving the conjunctiva as a factor of importance in the fitting of an eye, can be met by stating that this operation makes a stump that practical demonstration has shown is as good as that of other operations. The curved scissors properly used cut the conjunctiva at about the same distance from the cornea that the preceding operation of a distinct dissection of the cornea does. In this operation the distance from the cornea of the conjunctival cut varies with the nearness of the recti muscles, which is 5 to 8 mm.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

1. Amer. Text-Book of Dis. Eye, Ear, Nose and Throat, p. 571.

CONCLUSIONS.

1. The method causes so much less traumatism than others that it is available where enucleation has to be done with least possible injury.

2. Where grave reasons obtain against anesthesia a quick operation is the only one that can be considered.

3. Cosmetic considerations are met as well as by other procedures.

4. An operation done quickly, with a few clean cuts, deserves comparison with the same thing most of us have seen the general practitioner take an hour of hacking and probing to do.

THE ROLE OF THE ENDOTHELIUM IN INFLAMMATION.*

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It would certainly be superfluous before a body of representative pathologists to give a review of those publications which from time to time for the last forty years have considered the exact position the endothelial cells should occupy as regards their origin and classification. Indeed, the discussion began somewhat earlier, for Henle in a paper on the distribution of epithelium in the human body, written in 1838, noted certain facts which seemed to him to presage a change of ideas regarding the cells that line serous cavities. Not only has the discussion continued until the present time, but it is by no means ended; its very existence furnishes a good illustration of the unity of the sciences pertaining to medicine, for investigators in single branches are unable to harmonize the results of their own researches with those made in other departments; it is also often apparent that there is not entire unanimity of opinion among the authorities of certain special branches. However, as concerns some discordant ideas harmony has been attained, as for instance the agreement between embryologists and pathologists that the word "endothelium," since its introduction by His, has been applied to cells that differ in origin and therefore in the properties with which they are endowed. Most pathologists show a willingness to accept for the present the views advanced by Kölliker and Waldeyer, that the endothelium of the serous cavities differs from that of the blood channels, and that the former is more closely allied to epithelium; this is shown by the frequency with which they refer to the lining cells of serous membranes as epithelium. The usage, unfortunately, is not universal, and it is so far from being so that this consideration must embrace the cells for which the term "endothelium" was originally devised. Some anatomists as well as some pathologists, even though they accept the idea of a different origin for the two sets of cells, insist upon referring to them from the morphologic standpoint alone, and for all the cells use the word "epithelium." Although this may be advantageous by reason of its simplicity, it is nevertheless a retrogression; it is certain to confuse him who is unable to cast off at will those conceptions of the cells that concern other properties than those of morphology.

The attempt of the student to co-ordinate the perspectives of some subjects exposed to his mental vision by teachers in different lines is often distressing; for example, the difficulty with which he labors to arrange in their proper connection the facts obtained in the necropsy room and the laboratory relating to Hodgkin's disease, with the clinical features of that malady. The task is certainly as great to arrange for a proper comprehension, ideas of cells that have a morphologic unity, that however differ in genesis and in the varied activities of pathologic processes. Therefore, if for no other than purely pedagogic reasons, the difficulties should be removed as far as possible. It is doubtful whether this can be accomplished by having for certain cells various terms to designate at one time their morphology, at another their eventual fate or genesis. There is less need of new terms than there is for some leading mind to arrange a conformity of nomenclature. Of terms we have a plenty; to the previously acquired terms endothelium and epithelium, embryology has added "mesothelium" and pathologic histology "perithelium." The obstacles to a clearer understanding of the entire question are about to be augmented by the present tendency among embryologists to regard the vascular endothelium as different in origin, not only from that of serous cavities, but also from that lining the lymphatic channels.

However great these differences of opinion as to the genesis of certain of the so-called endothelial cells may be to the embryologists, it is altogether possible that the importance of these questions for the processes accompanying disease has been overestimated. At least, it is not unreasonable to conclude that the laws of specificity of cells that have found such a universal application to other structural elements would be equally applicable to endothelium. No matter how loosely this is done, it means that when in the course of embryonic development cells are differentiated to line certain channels or to cover certain surfaces, those cells are provided with a function or quality that they will always manifest even under widely varying circumstances. It also means that if such cells are provided with other functions, that these also are retained, and that the functions which form the basis of differentiation are not readily exchanged for others. It also means that when such cells revert to an embryonic condition as so often happens in pathologic processes, a reversion that Adami considers a degeneration, they never attain such a degree of prematurity that subsequent differentiation is possible with other functions and different qualities. In other words, the characteristics which the cells possess when once differentiated are always retained; endothelium remains endothelium and the embryonal endothelial cells is by no means analogous to the cell of the embryo destined for specialization into endothelium. With the acceptance of these propositions, the importance for pathologic processes of questions dealing with the genesis of this or that set of endothelial cells is greatly lessened. This remains true, notwithstanding the perplexity or interest such questions may possess for our confrères, the embryologists. Minot said in the Middleton Goldsmith lecture before the New York Pathological Society, in support of the term mesothelium for the cells lining serous cavities, "We do not have, however, at first a true differentiation of mesothelial and mesenchymal cells; all are undifferentiated, and we can readily demonstrate that the cells are interchangeable;" further, "We find that the mesothelium constantly gives off cells which join the mesenchyma, and we find later that the mesenchymal cells may take on an epithelial arrangement around any of the body cavities, which arise within the mesenchyma itself." That such an interchange of cells is possible during developmental periods is very interesting, but its import-

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Pathology and Bacteriology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and L. Hektoen.

ance to the pathologist would be paramount if it was firmly established that such reciprocation took place subsequent to a time when the differentiation of the endothelial cells to line the body cavity was completed.

It must be admitted that the changes which the endothelial cells may undergo in inflammation comprise all the retrogressive processes except that of sudden actual destruction, and all the phenomena included under the terms regeneration or proliferation except those of tumor growth. It must also be accepted that the behavior of these cells in inflammation, their proneness to resist, or their likelihood to suffer great damage, is quite in proportion to their differentiation. The useful knowledge of these cells is such as will enable us to forecast what is likely to happen to the endothelium of a certain region during an inflammation of that part caused by irritants of a certain kind or intensity; such an ability can only be obtained by a knowledge of the changes that have already been noted. Therefore, I shall content myself by a few brief references to certain observations of changes in these cells, trusting that this or that phase of certain researches will not command your attention to the exclusion of broad and fundamental notions of endothelium in general, such as its function, resistance to irritants, and its degree of differentiation.

As the explanations of various physiologic and pathologic problems crowd in upon us from the domains of physics and physical chemistry, the interest in the hypothetical selective power of the endothelium of small blood vessels lessens; it grows more improbable—to use the words of Thoma—that "the endothelium lining the capillaries represents a secreting membrane which transforms nutrient material brought to it and gives off metabolic products." It is quite likely that the same causes that bring about alterations in the character and quantity of the transudate also produce such modifications in the walls of the capillaries as will allow of its passage outward.

Adami has emphasized the important part the endothelial cells play in inflammation, especially the power they possess of absorbing non-motile bacteria and acting as phagocytes; he also calls attention to the alterations they suffer in shape; the nucleus as well as the cell body becomes larger; the former contains more chromatin and the cell projects into the lumen of the vessel. It is clear from the context that he has reference to vascular endothelium and particularly that of the capillaries. Borst in producing peritonitides in guinea-pigs and rabbits with streptococci and colon bacilli, found that the endothelial cells lining the cavity underwent granular swelling, desquamation and became entirely filled with bacteria. This would seem as though the cells were undergoing destruction. On the other hand, Wallgren, who participated in the great work carried out by Professor Homén upon streptococcus infections, found that "the diminution of the streptococci in the free peritoneal fluid shortly after the injection is due not only to a reabsorption and phagocytosis, but also to an accumulation of cocci in the wall of the cavity, where they lie partly free, partly enclosed in leucocytes or endothelial cells." He believes one of the means of defense possessed by the peritoneal cavity is in certain functions of the endothelial cells lining that cavity. Lemaire, among others, has noted the phagocytic action of the endothelium lining the capillaries of the liver against colon bacilli, and Mallory has found the same organisms in clumps of cells of endothelial origin in the mucous coat of the bladder. It is altogether likely that these organisms, if not dead at the time of their incorporation, are deprived of their motility. Broden has described phagocytosis of the bacillus of tuberculosis and the intracellular digestion of leucocytes that contain such bacilli, by the endothelial cells of the peritoneum. The phagocytic action of endothelium described by Mallory, in which the endothelial cells of blood and lymph channels and of the pleural serous membranes incorporate and digest red blood corpuscles, plasma cells and leucocytes, has a very wide bearing. It has been more than once suggested that certain forms of leucocytes have their source in the endothelium, and, if this be confirmed, it can not be held surprising that parent and offspring should exhibit some likeness. This warfare between endothelium and other cells, described by Mallory, recalls that recently depicted by Dominici in a study of the changes in the bone marrow and spleen of the rabbit following inoculation with the bacillus typhosus. So far as the rabbit is concerned the reaction in the spleen is apparently one of cellular destruction; the cells destroyed are produced in the bone marrow; the destroyers originate in the spleen and the conflict is one between leucocytes.

A great part of the knowledge pertaining to the behavior of the endothelial cells in inflammation has been derived from the fierce controversy as to the origin of fibrin in acute inflammation of serous surfaces waged by Neumann, Grawitz and their pupils on the one hand, with Orth, Marchand and their followers on the other. It is quite appropriate to refer to the recent works of Abramow, Herxheimer, Gaylord and Saltykoff in this connection. The contention of the Neumann and Grawitz faction that fibrin was produced from a peculiar degeneration of connective tissue seems to have been definitely disproved. All of the observers find proliferation of the endothelium as a prominent feature of the process, and some, that it may take place by direct division. The new cells may form an unbroken row between the fibrin and the serous coat, or the fibrin may be almost surrounded by newly produced endothelium. Often the rows of cells occur double, one covering the under surface of the fibrin and one the outer surface of the serous coat, with a cleft between them. Rather than recognize that such subfibrinous rows of endothelium were regenerated from the cells of the serous coat, Neumann traced them to the endothelial cells of lymph channels, even although he admitted that such a replacement was contrary to the specificity of the cells derived from the lining of the celom. Saltykoff, who used material from necropsies, found in three of sixty cases many layered formations that resembled stratified epithelium; similar appearances have been described by Sultan in a case of chronic periorchitis, and by Heinz from the injection of iodin into the pleural cavities in animals.

It seems to be universally accepted that the fibrin ferment may arise in part at least from the destruction of endothelial cells. Hauser, Graser, Birch-Hirschfeld, Abramow and others have described these cells staining poorly, located at the centers of areas of coagulation, and Saltykoff has noted fibrin within the cells and continuous with the threads which enclosed and covered them. Many authorities have alluded to the analogy between the fibrinous inflammations of serous surfaces and the croupous or diphtheric inflammations of mucous surfaces, in the necrosis of superficial cells and the formation of fibrin that is observed in both. There is a disposition to consider both, as designed to protect the underlying tissues and to fulfill in this manner the general

plan of adaptation that obtains in the inflammatory action. The cohesion between fibrinous exudates and serous membranes is sometimes remarkable for its strength; before the close and intricate meshwork of the as yet unorganized exudate can be broken, the underlying connective tissue will tear; this intimate union is due to the interweaving of threads of fibrin among the endothelial cells (Saltykoff). Other retrogressive processes than the coagulation necrosis that accompanies the formation of fibrin, do not seem to affect the endothelial cells to any great extent in inflammation. It is true that fatty metamorphosis of the cell, karyorhexis, cloudy swelling or an appearance of granules in the cell body have been described as well as hyaline degeneration, but these changes as they affect endothelium have not formed the basis of any considerable study. The endothelial cells of blood vessels are often found in sections, lying loose in the channel, where they form clusters of spindle-shaped cells that are very liable to be mistaken for emboli.

When the endothelial cells of serous membranes do not suffer necrosis they undergo a lively proliferation. Borst, studying organization of thrombi in the peritoneal cavity, found evidences of multiplication on the second day; Büttner, producing peritonitis by cultures of the staphylococcus aureus, found karyokinetic figures in these cells at the end of twenty-four hours, and Maximow, in his work on the healing of ovarian wounds, detected on the second and third days numerous dividing nuclei in the covering cells of that organ, which are supposed to retain many of their embryonic qualities. Heinz and Abramow have made similar observations. Roloff found foreign bodies covered by endothelium in fourteen hours, and Hinsberg after two days. In these respects the early and active multiplication of the endothelium of serous membranes is very similar to that which takes place in the blood vessels and the heart following the formation of thrombi.

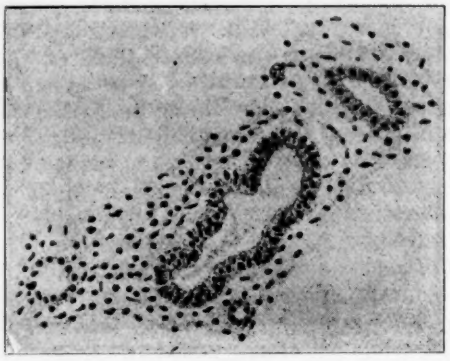
Many observations have been made of the formation of giant cells by endothelium in both blood and lymph channels and in serous membranes. After Orth described them in the omentum in 1887 many others noticed them; previous to this Meyer, Buhl and Wagner described them in the pleura and pericardium, and the last named observer noticed some with twenty to thirty nuclei; all of these belong to the class of foreign-body giant cells; Marchand and Herxheimer have emphasized the great resistance of the giant cells, for they seem to escape destruction for longer lengths of time than the adjacent endothelium. Herxheimer gives reasons for their origin in the serosa endothelium that are sufficient to convince the most skeptical; he says: "It is made certain that the giant cells are derived from the covering cells and not from the connective tissue by finding them on both sides of the retained row of endothelium, in the midst of such, or in direct continuity with the endothelium with which they correspond in tinctorial peculiarities, both of nuclei and cell body." He believes that they are produced by the coalescence of separate cells. In this faculty we find another correspondence of properties between the endothelium of the serous membranes and that of the vascular apparatus, for it has been repeatedly affirmed that the endothelium of blood vessels may form giant cells.

In his well-known study of the histology of typhoid fever, Mallory has brought forward facts concerning the proliferation of endothelium that have fully as wide an application as those dealing with phagocytosis. He found that the toxin in this disease caused multiplication of endothelium lining blood and lymph channels in the intestine, lymph glands, bone marrow, spleen and some other organs; the newly produced cells may accumulate at the points of their formation or they may be carried to distant places.

To impress you with the broad bearings that the results of Mallory's researches have upon pathologic processes in general, allusion may be made to a case reported by v. Notthaft as pseudo-leukemia in which the clinical details and the gross anatomic changes were those of lympho-sarcoma. In the histologic examination, proliferation was found in the endothelium of the lymph channels in the skin, where the new cells had often assumed a cubical form; a proliferation of the endothelium of the capillaries of the spleen had also taken place, and, in the lungs, liver, kidneys and pancreas, a similar process is described in capillaries supposed to belong to the lymphatic system. The cells lining all these channels were usually cubical, and among these giant cells were frequent; the channels were irregularly dilated. Formations resembling the tubules of glands were abundant in the lymph glands. The nodules that resembled tumors were composed of polymorphous cells and in these giant cells and cell inclusions were numerous. Largely from the evidences of proliferation of the endothelium of such varied localities as the spleen, lymph glands, blood and lymph channels, v. Notthaft debars the diagnosis of tumor in favor of an infection. Yet another citation to illustrate the significance of such processes as Mallory has described: In a case of splenomegaly, Boivard, working under the guidance of Prudden, found proliferation of the endothelium of the sinuses in the spleen, perisplenic and mesenteric lymph glands, and of the perilobular lymph channels in the liver. He refers to the classification of this disease by the French authors as primary endothelioma, a position which Herzog has recently taken in a consideration of two cases before the Chicago Pathological Society. Boivard excludes tumor growth in the following words: "We are driven to regard the process as a hyperplasia of the spleen, characterized by an unusual development of endothelial cells and the transformation of a considerable part of the organ into dense connective tissue." If the diffuse nature of the process in the spleen could lead Boivard to exclude tumor, as seems altogether reasonable, it may be that certain other diffuse growths, characterized at present as endotheliomas, may in time be removed from this category. These references serve to indicate a possible connection between tumor growth from a multiplication of endothelial cells and other widely varying conditions ensuing from the same process. Mallory has strongly emphasized the bestowal of malignant qualities upon cells by toxins.

Of much less significance, but none the less interesting, are certain other results of the proliferation of endothelium. There have been observed in various situations, usually, however, adjacent to serous membranes, rows of cells that form gland-like channels or tubules; these formations have not infrequently led to the apprehension of tumor, on account of their great resemblance to similar formations in cylindrical celled carcinoma. They have been noticed either in human tissues or in experimental work upon animals by Apel, Paltauf, Marchand, Orth, Graser, Gaylord and Heinz. Saltykoff saw them between masses of fibrin and the original serous coat. Ribbert, in the "milk spots" of the pericardium, and Herxheimer, in a case of chronic fibrinous pericar-

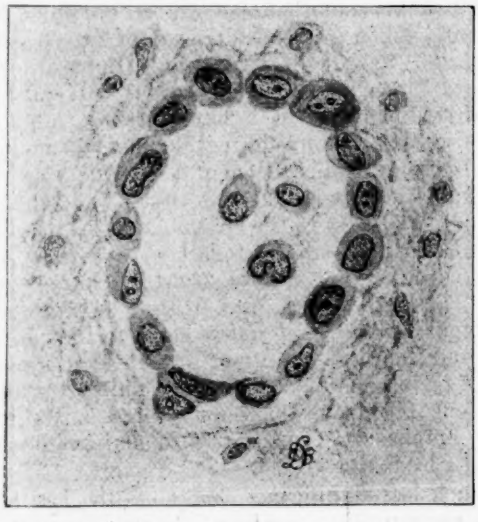
ditis, by means of serial sections have traced their connection with the cells of the adjacent surface. Ribbert believes the appearance of tubules is due to cross sections of clefts. Riese has noted such tubules with cystic formations in organized deposits on the Fallopian tube, and Nagel in similar conditions of the ovary. In some tubules of this sort that I have described in reporting a case of carcinoma of the Fallopian tube, the nuclei of the cells were much poorer in chromatin than is customary with nuclei of carcinoma cells. There is no question



Tubules formed by endothelial cells. From the posterior surface of the uterus.

of the analogy between such activities of endothelium in the organization of fibrinous exudates and the proliferation of the endothelium of blood vessels to line lacunar spaces in thrombi that are undergoing organization (Welch).

Other illustrations of the disposition of endothelium to cover surfaces are furnished by Maximow, who found that wounds of the ovary when left unclosed became lined by cells from the surface, and by the recent reports



Tubules formed by endothelial cells. From the posterior surface of the uterus.

of cysts of the spleen by Ramdohr and Schmidt. The last named authors relate, in separate articles, altogether seven instances in which the spleen was covered to a greater or less extent with vesicles of various sizes filled with clear fluid. In some cases the spleen appeared as though besprinkled with dew drops, in other cases the cysts were limited to certain areas and some were encountered the size of cherries. These were all explained by the growth, through defects in the capsule, of the covering endothelium.

The ability of endothelium to form connective tissue or the active participation in cicatrization of the endothelium of certain regions, are questions that have formed the basis of many researches and many polemics. Without doubt, the older belief that this capacity was inherent in all varieties of endothelium owed its general acceptance, in a measure, to the accounts published fifteen to twenty-five years ago dealing with the organization of thrombi. That the endothelium of blood vessels should possess such a property, perhaps met with the more ready welcome, since it was so thoroughly in accord with the prevailing ideas as to the genesis of the cells. With the entrance of controversies as to the origin of the endothelium of certain situations among the embryologists, it is but natural that the endothelial or epithelial nature of certain of the cells in question should be reflected by pathologic problems. So far, the endeavor has been to separate the endothelium of serous membranes from other forms, and it is with these cells that contrary opinions have been agitated. The prolonged interest in these questions is largely to be attributed to ignorance of the exact methods by which fibers are formed normally; with the definite proof of the secretion theory or of their direct production by fibrillation of cells, or of the conditions under which either of these processes occur, will come a seasonable time for investigations to determine how this or that group of cells may share in the development of pathologic fibrous tissue.

It is generally accepted that endothelial cells may assume certain embryonal properties in inflammation and assist in the formation of granulation tissue, but there the trail is lost; differences between embryonal cells of diverse geneses as they occur in this tissue are not sufficiently marked, that the subsequent behavior of separate forms is readily traced. Büttner, in some experiments with peritoneal endothelium, found the intercellular bridges or prickles previously described by Kolossow, but there are no statements or illustrations in his report that would lead one to infer that they are retained as the cells undergo changes. Although there is no consensus of opinion as to the rôle endothelium plays in the growth of cicatrices, yet some recent works, such as those of Muscatello, Heinz, Hinsberg, Büttner and Herxheimer, point strongly to the necessity of divorcing the lining of the pleuro-peritoneal cavity from other forms of endothelium, at least so far as some of its qualities are concerned. Certain observers who concluded from experiments that the endothelium of serous membranes was directly concerned in the production of organized adhesions, have recently moderated their statements as to such an eventuality (Graser, Marchand). Büttner, who repeated Roloff's study of the encapsulation of sterile silk ligatures introduced through the peritoneum, was unable to confirm the conclusion of his predecessor as to the versatility of the lining cells. When masses of fibrin in fibrinous exudates are replaced by connective tissue, the organization always proceeds from the point of their anchorage and this is true in spite of the fact that such masses may have been completely covered over by newly produced endothelial cells from the edges. Even Neumann, who has insisted so strongly upon the "fibrinoid degeneration" of connective tissue, does not believe that the lining cells of the pleura or peritoneum may develop into fibroblasts. Thus gradually and from various sources, as before stated, an agreement has been reached that the lining of the serous cavities—pleura, peritoneum, pericardium and tunica vaginalis—is clearly allied to epithelium.

No doubt some of the work leading to the universally admitted formation of fibrous tissue by the endothelium of blood vessels needs repetition with modern methods of experimentation and technic; inquiry into the behavior of these cells in processes of disease has not possessed the stimulus of a vigorous dispute relative to their origin. Indeed, there are some facts to indicate that our conception of these cells may undergo modifications fully as radical as those already suffered by our views of the serosæ endothelium; investigators have been more occupied with the demonstration that changes peculiar to this or that disease affected certain coats of the vessels to the exclusion of others, or that some one layer was first involved, than with the histogenesis of the lesions. The tissue between the endothelium and the inner elastic membrane—the subendothelial connective tissue—has received very little attention from pathologists; the word intima with quite a uniform disregard of the subendothelial tissue which is also intimal, has become in a sense synonymous with endothelium, and endarteritis with proliferation of the endothelial cells. Although this part of the intima is insignificant in certain vessels, in others it contains numerous fusiform and stellate cells and it is altogether possible that in processes of disease it may be greatly augmented in localities where normally it is made up of a single layer of cells. Langerhans as long ago as 1866 called attention to occasional "granulation cells" in this layer and to their possible pathologic consequence. More recently Hektoen has emphasized the passive part the endothelial cells play in the development of subendothelial, intimal tubercles in tuberculous meningitis, and these he ascribes to a proliferation of cells. Heubner has located the process in syphilitic disease of the arteries in the same position, the subendothelial tissues; although he attributes the accumulation of cells in this region to a proliferation of the endothelium, there are not wanting opponents to this explanation who account for the excess of cells by an infiltration (Köster). Diamond has recently reopened the question of tuberculous meningitis, and in a number of cases found the subendothelial cells forming the intimal tubercles to consist in large part of plasma cells. From these allusions it is evident that the worn expression "thickening of the intima," may in time come to possess another purport than that which it has carried so long of proliferation of the endothelium. If there are to be wide differences of opinion with regard to the behavior of the endothelium of the vessels in such inflammations as syphilis and tuberculosis, and especially in reference to its ability to form connective tissue, the share the endothelial cells take in the more chronic processes accompanying arteriosclerosis must remain mere conjecture; for the opportunities to determine the histogenesis of a chronic inflammation diminish as does the amount of granulation tissue which develops in its course. Briefly, we are forced to the conclusion that there is ample room for further proof of the production of fibrous tissue by the endothelial cells lining the blood vessels. Many interesting questions must remain untouched, such as the effect of the inflammatory process upon the cells lining lymph channels and the large joint sacs, and problems dealing with endothelial cells that are differentiated for special functions, such as those lining the channels of the blood forming organs. It will be necessary to have the results of more inquiries than are as yet available to obtain comprehensive impressions of the cells of some of these locations. Sufficient has been said, I am sure, to relegate to the endothelial cells an important place in inflammatory reactions, and to call to your notice some fields that offer attractions for investigation.

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DISCUSSION.

DR. H. G. WELLS, Chicago—Dr. Lemaire demonstrated the action of two different cultures of the colon bacillus. He injected a mild colon culture into the general circulation of rabbits and found that in a short time the endothelial cells of the hepatic capillaries became filled with the bacilli, while the

colon bacilli rapidly decreased in the circulating blood. When he injected a fatal dose of a virulent culture he found that the endothelial cells in part were destroyed, and after a short time the colon bacilli, multiplying in the cells, escaped into the circulation and rapidly increased in number. He found if he injected an antitoxin serum for this colon bacilli and at the same time injected a virulent culture, the number of bacilli in the peripheral circulation sank exactly as when he injected the non-virulent or mild colon bacilli; therefore, he concluded that the effect of the antitoxin is to stimulate the endothelial cells, and immunity, in this case, is due to direct endothelial stimulation by the antitoxin itself. This is based on the similarity of the effect of the virulent cultures accompanying the antitoxin, and non-virulent cultures without antitoxin. Since reading his article I have wondered if that conclusion was warranted, and I bring up the matter at this time hoping someone will speak on the point as to whether the subject of immunity, at least in some cases, is due to stimulation of the endothelial cells or not. I understood Dr. Le Count to say that endothelial cells were characterized by not entering into the formation of tumors. I wish he would make that clear.

DR. E. R. LE COUNT, in reply—I do not believe that Lemaire is sustained in the position he has taken entirely, because we do not know that these bacilli that were incorporated into the endothelial cells of the capillaries of the liver were not dead at the time of incorporation. Further, as regards the production of immunity. You will remember I called attention to the fact that the endothelial cells may give origin to leucocytes, and in the phagocytic properties that the endothelial cells have been found to possess, there was a resemblance in this respect between parent and offspring. It is supposed that immunity may be due in part to the production of anti-bodies, or substances that are in solution; that there is extra-cellular digestion, so to speak; these substances are the product of leucocytes. I do not think it unlikely that the endothelial cells, at least in certain regions, may show a further resemblance to leucocytes in that they also may furnish some of the substances that bring about extra-cellular destruction of bacteria. Personally, I have very little faith in the ability of a flat cell to secrete anything. If the diffuse nature of the process in the spleen in splenomegaly sufficient to exclude tumor, it may be that certain other growths characterized at present as endotheliomas may be in time removed from this category. I have in mind particularly the diffuse endotheliomas of the serous surfaces, of which there are only a few cases on record. One case reported recently by Pollmann occupied in the pleura and peritoneum both. True, it is supposed to have had its origin in the vascular endothelium, and not the serosa, and this fact might explain this tumor as a healed diffuse inflammatory process, such as occurs in both situations. I also had reference to diffuse meningeal sarcomas as have been observed in the cerebral and spinal meninges. The cases of this sort have been collected by Dr. Weaver, 11 in number, and are reported in the third volume of the *Journal of Experimental Medicine*. It is very significant that in 6 of the 11 cases there was no primary tumor reported.

FEAR AS AN ELEMENT OF NERVOUS DISEASES AND ITS TREATMENT.*

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Fear as an element of disease has become so very prevalent and common that its study deserves more than a passing notice. While its universal prevalence is recognized to some degree at least in nearly all forms of disease, yet it is in the departments of neurology and psychiatry that we find its most serious effects and disastrous consequences. Fear is defined by Gould as an emotion of dread, an apprehension the feeling of which in its intense manifestations is called terror or fright. Generally speaking, fear is the expression of a desire on the part of the individual to escape or ward off whatever may seem to threaten evil or work harm to his well-being. It therefore conforms to the instinctive power immanent in man and animals of self-preservation. As such it exists normally in every individual in varying degrees of intensity and subject more or less to the higher inhibitory power of self-control; hence its manifestation depends not so much upon the excitation that causes it as the receptive and restraining power of the recipient. The most casual study of the affective capacity of human beings teaches us that the power of emotional receptivity and power of restraint differs enormously in different persons, so that one can witness the most terrible sights or pass through extreme degrees of danger without apparently producing any special manifestation of fear or dread, while another person subject to the same experiences will be completely overcome by them. In the former case the emotion or fear was controlled by the will or inhibitory power, while in the latter both these elements were weakened or even paralyzed. The foundation of all fear has for its basis a presentiment of danger. This excites or stimulates the emotions through the various avenues of the internal and external senses which in turn responds by a conscious sense of fright or dread presenting every degree of fear and often resulting in a series of reflex motive phenomena in which the whole central nervous system is involved. Its clinical manifestations therefore vary considerably and may be both objective and subjective, involving the motor, sensory, reflex, trophic, secretory, visceral and psychical nervous mechanisms in varying degrees. The more common symptoms of fear are pallid or flushed face, dilated pupils, profuse perspiration, general tremor, with chattering of the teeth, general muscular weakness, so that the knees seem unable to support the body, the voice becomes weak and tremulous, the heart violently palpitates, the respiration becomes rapid and labored, vertigo supervenes, followed by syncope, paralysis and sometimes death. In some cases, however, many of these may be absent and the fear may be almost entirely confined to psychical disturbances which are only known to the patient. The element of fear is so common and universal that there are few persons who have not some besetting fear. With many it is an idiosyncrasy, and by avoiding the object of fear no distress is experienced. But in the great majority of persons a certain apprehension that the dreaded thing will occur or be encountered is constantly before them, which is thus aroused by mere thought or memory of the object or condition, and often where there is no prospect of danger whatsoever. So common and prevalent is this apprehension of danger that it pervades all the ramifications of our business, professional and social life. More especially do we find its pernicious influence affecting those who inherit or acquire a neurotic tendency. Consequently, the nervous, unstable and imaginative, those who by virtue of their faulty organization, suffer more severely from its effects than the phlegmatic and those whose sensibilities are less keen and susceptible. Fear under certain conditions and circumstances and within certain limits may therefore be said to be a physiologic function similar in all respects to that of its opposite attribute joy, but when it reaches an extreme degree and goes beyond the prescribed limits it ceases to be a normal condition, but becomes a pathologic factor. The term fear and morbid fear or patho-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

phobia bear the same relation to each other as health and disease or physiology and pathology, hence they may be used synonymously. It is said that normal fear has as a stimulus something which experience has taught is to be dreaded, while morbid fear may have an external stimulus that to a given individual arouses a dread at once unreasonable and quite out of proportion to the real danger. Morbid fears present no specially distinctive feature as to external manifestations, but the sense of uncontrollable dread seems stronger.

Morbid fear may sometimes proceed from within and be of purely psychic origin, in which case the external evidence is greatly modified and subdued, but the internal emotion is attended with marked mental dread or fear amounting to almost despair. In such cases the attention and imagination enormously augments its intensity and at times tortures the patient to such a degree that he loses control of himself and becomes almost mentally alienated during the paroxysms. Moreover, the emotion of fear under certain conditions proves stimulating, so that the frightened subject under its action seems to take on new strength and perform feats that would otherwise have been impossible without the unusual stimulus attending it. On the other hand, fear more often entirely overcomes the inhibitory power and renders the will powerless, so that all the vital functions are temporarily checked or held in abeyance. The emotion of fear may therefore be stimulating, inhibitory or paralyzing to the vital functions according as the stimulus is strong or weak and the reaction active or indifferent.

Fear is sometimes induced without any apparent cause and the subject of it may acknowledge this, yet they feel its influence as strongly as if the actual cause was known. The character of the stimuli producing them, however, is very various and corresponds to the conducting paths associated with the various senses.

Morbid fear, or pathophobia, comprehends almost as many varieties as there are diseases; for instance, one person fears that he has heart disease, another that his lungs are affected, a third that he has liver complaint, a fourth that his sexual organs are impotent—indeed, all the various functions and organs of the body may thus be attacked in the mind of the patient.

Students of medicine are especially prone to attacks during the early part of their college course, and from their reading treatises on pathology they arrive at the conclusion and become convinced that they are suffering from a certain disease.

These temporary attacks of morbid fear are, however, usually due to errors of diet, and can usually be effaced by appropriate means of treatment. As an element of nervous disease, however, morbid fear not only appears in a more serious aspect, but often becomes the most troublesome and difficult of all complications. More especially is this true of neurasthenia, in which affection it at times presents all its various phases. Indeed, we have good reason to believe that morbid fear, when presenting its more serious degrees, is an essential element of psychic neurasthenia. Unfortunately, there seems to be no unanimity of opinion as to what the term implies or signifies. Hence, we find it used synonymously with the term, imperative concept or idea, obsession, impulsion, besetment and fixed ideas. According to one authority, morbid fear is an emotional neurosis, a fixed or fleeting idea, which is the commencement of an impulsion or impulsive act. Another authority claims that "the subject of an irresistible impulse is the victim of an imperative concept or idea in the great number of cases, if not in all cases. These are described by various authors as imperative, dominant, automatic or fixed ideas, besetments or obscessions. They are lesions of the will very common among the insane, and far from uncommon in people who are not known to have any mental defect." Still another author states that "morbid fear is a fixed idea, anguishing, obscessive, that leads its victim to apprehend not only the attack of the malady, but even to suffer from it, so to speak; such is the power of auto-suggestion that the pathophobic patient can truly imagine that he feels the pain and even mimic the symptoms (to some extent at least) of the disease he fears he is suffering from." According to Tuke, "imperative ideas are morbid suggestions or ideas demanding notice, the patient being painfully conscious of their domination over his wish and will," a condition, as Dr. Angell[1] says, "very different from that produced by the fixed idea or delusion of the insane mind." In one case (imperative idea) the psychical reaction in feeling is against the idea; in the other (fixed idea) it is in harmony with it. "Gould's Dictionary" defines an obscession as an imperative idea, a dominant delusion or besetment. According to the French and German authors, the term obscession includes the idea of antagonism and thus more clearly than imperative idea defines the conscious struggle of the ego against its acceptance. The conscious and even painful resistance of the mind is an essential element in the condition. Therefore, the terms imperative idea and obscession are identical, both involving conscious resistance of the will. The consensus of opinion, therefore, strongly favors a real discrimination between an imperative idea or obscession on the one hand and a fixed idea or delusion on the other. Regis also recognizes a distinction between a fixed idea and an impulsion. According to this author, "the fixed idea is only the commencement of the impulsion and not actually identical with it." "As regards the impulsion itself, conscious and rational as it is in neurasthenia, it is a very complete syndrome, in which the unresistable act is only the last term of a morbid process of which the fixed idea is the starting point and the anxious emotion the intermediate stage." Morbid fear, however, when carried to an extreme degree, leads to impulsive acts. Admitting that technically these various terms can be strictly differentiated, all authorities agree that the difference is largely one of degree rather than of kind, and it is the degree combined with their persistency that indicates their true nature and character as well as seriousness. Moreover, all authorities agree in the main that morbid fear and its allied states are not only identical in their essence and character, but that they rarely exist singly, and are usually multiple or exist in combinations. The tendency, however, has been to create for each a special designation or name, but as they are simply the reproduction carried to a pathological extent of the ideas, sentiments or tendencies common to mankind there is no limit to their special manifestations. For all practical purposes they are recognized as having for their basis a presentiment of dread or fear which amounts to a more or less intense feeling of anxiety, which irresistibly forces itself upon the sufferer at times, dominating his every thought, word and deed.

Regis[2] has divided them into three classes, viz., 1, those characterized by indecision, of which all kinds of

1. Journal Nervous and Mental Diseases, August, 1900.
2. Manual Mental Medicine, p. 262.

morbid doubts are typic; 2, those characterized by all kinds of morbid fears; 3, those characterized by morbid propensities or irresistible tendencies. Each of these are again subdivided. For instance, "Ball" has divided the first class, or doubters, into five subdivisions, according to the nature of their predominating ideas. Hence we have: 1. "The metaphysicians, who are especially haunted by abstract questions of all kinds, such as doubts concerning heaven, hell, the world, the deity," etc. 2. "The realists, who constantly revolve in their thoughts the lower and base details of objects, such for example as the conformation of the genital organs, copulation," etc. 3. "The scrupulous, whose doubts pertain to forms of religion, such as accusing themselves of committing the unpardonable sin, or of some theft," etc. 4. "The counters, whose doubts are manifested under the form of irresistible enumeration." Such patients never get through counting different objects, such as doorknobs, the houses on the street, or their numbers, etc.

The second class, or those suffering from morbid fears or phobias, is divided into three subdivisions: 1. Those who have a morbid fear of all kinds of objects, or rupophobia. Its expression is extremely varied and may involve such articles as glass, knives, pins, guns, thunder, flowers, besides certain kinds of food and drink. 2. Those who have a morbid fear of places or elements; agoraphobia or disease, pathophobia. Such patients are morbidly fearful of high places, bridges, streets, churches, theaters, rivers; besides a dread of all kinds of diseases, such as heart disease, liver disease, cancer, syphilis, paralysis and insanity. 3. Those who have a morbid or irresistible propensity to steal, lie, cheat, drink, blaspheme, set on fire, abuse the sexual organs, homicide or suicide. This includes such conditions as kleptomania, dypsomania, pyromania, nymphomania, etc. All of these various states are ably shown by Regis to be due to lesions of the will, and are often associated with neurasthenia as well as insanity. In a limited degree they are commonly present in health; indeed, very few of us escape the presence of doubts, fears or impulses as isolated sudden thoughts, but which are controlled by the dominating power of inhibition. For instance, it is a common experience for persons looking from a height to be tempted to jump down, or in walking on the street are suddenly seized with a desire to count the houses or numbers on the doors, etc. These sudden impulses are easily resisted or controlled; but when they appear as a complication of nervous diseases they are often morbidly persistent and get beyond the control of the will. In their exaggerated forms they therefore constitute a serious symptom and may become the dominant feature of a grave form of insanity. In all cases, however, where their presence can be demonstrated, they are to be regarded as marks of true degeneracy, often remaining latent for years, to be brought to the surface by some sudden or severe shock to the nervous system, such as trauma, or severe mental and physical strains, beside excesses of all kinds. Moreover, there can be little doubt that certain crimes are due to such sudden impulses which arise in the minds of persons who are not ordinarily regarded as insane, and which the subjects are wholly unable to resist. Hence, they are truly irresponsible and should be given the benefit of the doubt.

Treatment.—If morbid fear and its allied states have for their underlying cause a faulty nervous organization involving both the physical and mental constitutions, it follows that their treatment must necessarily take cognizance of both mind and body. To accomplish this successfully it is essential that the physician be allowed the full care and control of the conduct and life of the patient. This, I believe, can best be done by isolation of the patient, and preferably away from his home. By removing the patient from his accustomed environment we do much to bring about a disassociation of the morbid ideas. As a rule the home life of the patient furnish the two extremes of indulgence and irritability, which proves a most fruitful soil for the cultivation and development of the etiologic factors underlying the morbid ideation. Isolation, if too prolonged, however, may defeat its own purpose by the patient becoming too readily accustomed to the new associations. A frequent change is therefore sometimes demanded and proves of great value in breaking up, as it were, the continuity of the morbid fear. Having isolated the patient we are then prepared to put in force another powerful therapeutic agent, viz., suggestion. When this agent is used aright it includes all the influences and possibilities of a strong and appropriate personality. Its judicious employment is even more difficult than isolation, tasking to the utmost the keen insight, knowledge, ingenuity, tact and judgment of the physician. In its essence it embraces all the influences included in the term hypnotism; for, the substance of this is none other than suggestion. Its successful practice depends entirely upon the physician's ability to influence the mind of the patient, and the first step in the process is to gain his full confidence, a task not always easy. Dr. Gray says: "It requires more tact and knowledge to play upon the mind than upon the finest piano that was ever constructed." Not all physicians can use this mighty power of suggestion with success, but with many it is one of the most powerful agents they have at their command. As the cultivation and development of morbid fear depends upon an abnormal psychical as well as physical organization, the psychical treatment to be effectual must be directed toward the dissolution of the pathologic mentalization and the substitution in its stead of a healthy mental process of ideation. For this purpose the peculiar mental traits and characteristics of the patient must be studied as well as the cause, nature and character of the morbid fear. This will also suggest the birth of the new or healthy idea to be established. The essential qualities of this newly acquired idea should embody the inspiring influences belonging to hope, progress and cooperation with sufficient force and power as to impress upon the mind of the patient the certainty of ultimate recovery. This plan, therefore, embodies an educational scheme, the special object of which is intended to restore to the will its normal control of the emotions and intellect, at the same time teach the patient to become more self-confident, self-dependent, and self-reliant, without which all methods of treatment prove futile. Oftentimes the revelation on the part of the patient of the nature of his morbid ideation or fear and its corresponding disturbance in consciousness will relieve the mental stress and cause it to fade away. In many cases it is necessary to take charge for a long time of the distempered mind, and by constant advice and oversight direct its activities into a normal and healthful channel. Sympathetic interest, tempered with wise counsel, will often do much toward its relief. To aid us in the accomplishment of the purpose set forth, the judicious use of massage, electricity, hydrotherapy, special diet and the use of drugs such as iron, quinin, strychnin, kola, bromids, hypnotics and stimulants are used with great advantage. More especially is electricity of great

service, one author preferring the faradic current, another the galvanic, and still a third the static form or franklinization. It is seldom, however, when this agent is used intelligently that we do not obtain, if not a cure, certainly a temporary and sometimes a lasting alleviation.

Measures that are directed toward the relief of the physical conditions associated with morbid fear pertain largely to the removal of the cause. If the general health is depressed or found suffering from any toxic condition such as lithemia, auto-infection and similar states, the use of the salicylates, alkalies and saline cathartics, with proper diet, are often attended with marked relief. In the practical therapeutic realm of neurology and psychiatry no symptom at times offers more obstinate resistance to all kinds of treatment than morbid fear; but in the majority of cases, if the principles referred to are intelligently, persistently and scientifically applied, much can be done towards its permanent alleviation.

In conclusion, I desire to acknowledge my indebtedness to the recent able articles by Dr. Thompson[3] of Vermont, and Dr. Angell[4] of Rochester, N. Y.

Altman Building.

TEN CASES OF INFECTIOUS MULTIPLE NEURITIS, WITH TWO DEATHS.*

W. A. JONES, M.D.

MINNEAPOLIS.

From the 15th of February to the 15th of March, 1901, there was an unusual series of cases of multiple neuritis in the city of Minneapolis. As near as I can learn there were probably from twelve to fourteen cases under observation, ten of which it was my fortune to see. This series includes the general types, but does not consider the forms of neuritis involving one extremity only, of which there were several.

The onset of the disease, as well as its occurrence at a time when influenza was epidemic and when other diseases of irregular type were prevalent in the city, suggests that the influenza bacillus was responsible for cases of neuritis, especially as six of the ten occurred within one week and three or four of the six within two days. During this period the number of deaths resulting from typhoid fever was greater than former health reports had shown. There was also an increased number of pneumonias and mild bronchial infections, as well as a large increase among the exanthematous diseases.

CASE 1.—Miss N——, aged 27, domestic, family history good—the father, five brothers and six sisters living and well; the mother died at 67, of a chronic stomach disorder. The patient was ill at 17, and spent three successive summers at some hot springs in Norway. For the past seven years she has been well, except for occasional menstrual pains and constipation, with resultant headaches.

On the morning of March 10 she awoke with headache, general lameness and diminished power in all her extremities. She could not get up from the bed or a chair without great effort, but once on her feet she was able to go about and do the ordinary work of a cook. The grasp in both hands was feeble, and she was unable to lift more than two or three pounds; there was no loss of sensation; coördination was good; knee-jerks were preserved; there was no evident tenderness of nerve trunks. She made a practically complete recovery in three weeks without remaining in bed. At the end of five weeks she recovered her strength, and resumed her heavy work.

CASE 2.—Mr. B——, aged 52, seen in consultation with Dr. F. A. Dunsmoor, February 20; mother and father living at advanced ages; one sister living, a nervous invalid. The patient is a tall, spare man, long of bone, but has a muscular system of great vigor. He is an esthetic neurotic, and suffers from headaches brought on by fatigue. He has always been an active and fairly successful business man. During the month of February he was under annoying business strain, but was as well as usual on the morning of February 17. During the day he felt unusually weak, walked with difficulty in the afternoon, and in the evening was unable to get about. The following morning he was decidedly weaker, and later in the day his arms and legs were practically helpless, yet he could feebly move his fingers and toes, flexion and extension being preserved. If placed on his feet and supported, he could walk short distances. At this time he complained of no pain, but experienced a tingling in the fingers and soles of the feet. He was not incoördinate, as far as could be demonstrated. The loss of power gradually increased until it completely involved all of the extremities. The knee-jerks were abolished. For ten days his condition was unchanged, except that he suffered pain in the calves of the legs, in the thighs and over the lower part of the back. There was no anesthesia, but rather a hyperesthesia of the toes and fingers. When an attempt was made to place him in a reclining-chair, he became cyanosed and exhibited a few general convulsive movements. His improvement dated from this time by a return of the smaller movements of the hands and feet. Although there was some atrophy of the interossei muscles, the muscles of his arms and legs were flabby. Improvement was rapid in spite of a partial reaction of degeneration. The extensor muscles of the back and thighs were the last to recover, as was shown by his inability to get out of bed or rise from a sitting position without the "climbing up" method of the progressive atrophies. He resumed his business May 1, ten weeks after the onset of the neuritis. His knee-jerks are present although not active, and he is able to walk several blocks, complaining only of fatigue and heaviness of his feet.

CASE 3.—Mrs. McD——, widow, aged 40; occupation, nurse; seen by Dr. F. E. Strout, who referred her to me March 6, 1901. Her general physical condition was good in spite of years of hardship. She was moderately neurotic in appearance and history. She had been working very hard for four weeks before this illness, and was sleeping badly. On the morning of March 5 she awoke as well as usual. On attempting to rise from a chair she fell to the floor, but rose immediately without assistance. During the forenoon she complained of pains in the back, and down the legs. The following day there was diminished power in the hands and arms and a feeling of heaviness in the legs. She could stand and walk if placed on her feet. There was no Romberg sign; the knee-jerks were present and normal. She complained of a dulness of sensation on the outer side of the thighs and over a small area in the lower dorsal region. There was some difficulty in swallowing, coughing and sneezing; the breathing was decidedly diaphragmatic. All of these symptoms cleared up in three or four days, leaving no disturbance of sensation, and no respiratory incon-

3. Journal of Medicine and Science, September, 1900.
4. Journal Nervous and Mental Disease, August, 1900.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

veniences, although she could not elevate her tongue or maintain an upright position of the head and neck. On March 9 a facial paralysis appeared in the lower right face, and extended rapidly until it became bilateral, involving all of the muscles. On the next day a Babinski great toe phenomenon in the right foot was present. At no time was there a rise in temperature, or continued pain or tenderness of the nerve trunks.

The patient was confined to bed for four weeks, and although never absolutely helpless, she was unable to help herself in turning or moving. She began to improve in two weeks, and in six weeks was up and about with a limited extensor paralysis of the thighs and back. The paralysis of the left face cleared away in two months, and at the present time the paralysis on the right side is disappearing. Her general muscular strength is good, and she has resumed her work. The urine was examined occasionally, but contained no abnormal products.

CASE 4.—Mrs. J——, aged 35; mother of two children. Her parents are living and in good health, although the mother is a neurotic. The patient also is a neurotic. An illness ten years ago, accompanied by pain in the back of the neck, confined her in bed for a month. Following this she was weak and tremulous in the extremities for nearly a year, but made a good recovery. In February, 1901, she had an attack of influenza of mild type. She made what she thought was a good recovery. At least she was able to attend to her household duties, which were unusually burdensome, but she admitted that the fatigue which followed was unnatural. I saw her March 10, in company with Dr. Strout, her attending physician.

She complained of pain in the back of the neck, behind both ears and down the sciatic nerves. There was diminished power in all the extremities, and an inability to turn the head and body from side to side, but she could stand upright if placed on her feet. There was also slight embarrassment in coughing, swallowing or sneezing. There was no loss of sensation, no marked tenderness over the nerve trunks after the first few days, and no rise in temperature. One week after the onset of the polyneuritis the left face became paralyzed, but this and the respiratory disturbances cleared away in ten days. The knee-jerks were abolished. She made rapid improvement, and is now able to go down town, and walks with ease. The right knee-jerk has returned, but the left is absent. The left leg is weaker than the right, and fatigue causes a tremor of the hands.

CASE 5.—Miss L——, aged 33; seen in consultation with Dr. T. S. Roberts, March 8. The patient is of neurotic stock, and has a history of previous nervous attacks, simple and functional in character. About March 1 she complained of vague disturbances of sensation and power, and was sleepless and nervous. She apparently recovered in two or three days, thus suggesting that the attack was hysterical. On March 4 the symptoms returned, and with them a weakness of the extremities, back and thighs. She was unable to keep her head from falling forward or backward, and she could not rise from the bed or a chair, but could stand and walk if placed on her feet. There was also a transient difficulty of swallowing. On March 11 a bilateral paralysis of the face appeared. There were no disturbances of sensation, and no tenderness of the nerve trunks of importance. The knee-jerks were normal. She improved rapidly, and is now practically well, although there is still a tendency to fatigue on overexertion. The facial paralysis has disappeared.

CASE 6.—Miss H——, aged 23; seen with Dr. H. K. Read April 3; a strong, healthy girl with a good family record. During the latter part of February and the early days of March, 1901, she was exposed to street draughts from the doors of a department store where she was employed. She complained of the usual symptoms of influenza, headaches, pain in the bones, cold hands, clumsy and awkward fingers. She could not execute quick or fine movements of the fingers, such as writing, tying parcels or adjusting box covers, neither could she stand on her toes or the ball of the foot in reaching shelves. The diminished muscular power increased until all the muscles of the arms supplied by the brachial plexus, except those supplied by the musculocutaneous nerve, were involved. Power in the legs also diminished until the patient was practically helpless, but she could walk if placed upright. There was no disturbance of sensation. The deep reflexes were decidedly diminished, and partial reaction of degeneration was present. After four weeks there was some muscular atrophy in the hands and legs. At this writing she has gained rapidly, particularly in the right arm, the left arm being still weak and its movements limited. She can go up and down stairs with but little assistance, but she can not rise from a sitting position. There was slight tenderness over the nerve trunks.

CASE 7.—Mrs. G——, aged 22; seen in consultation with Dr. Matchan March 14; a decided neurotic of neurotic history and parentage; has never been seriously ill before. During the early part of February, 1901, her menses had ceased, and she sought and gained relief through the kind offices of an abortionist. The menses appeared February 27. Three days later, after becoming chilled, she noticed that her wrists and hands were weak. She was unable to pick up small articles or to execute fine movements. The following day her arms grew worse, and in attempting to get up from a chair she fell to the floor. The loss of power became complete in all extremities on the third day, and was associated with a left facial paralysis and a difficulty in swallowing, coughing and sneezing. Abdominal respiration was present, and there was a paralysis of the muscles of the neck supplied by the cervical plexus. She complained of grinding, aching pains, but there was no loss of sensation, and no bladder or rectal disturbance. There was marked tenderness over the nerve trunks and muscles. It was difficult to estimate the amount of pain and tenderness, as the patient was decidedly hysterical; yet I believe there was some pain. There was an occasional rise in temperature, which was probably due to incidental conditions rather than to the neuritis. The facial paralysis and the respiratory distress disappeared in about one week. I saw her March ——. She had slightly improved, and can now raise and lower her hands and use both arms, although recovery of the left is not as far advanced as in the right. She can elevate her trunk, and can extend and flex the toes and feet. There is atrophy of all of the muscles in the four extremities, and reaction of degeneration is still present.

CASE 8.—Mr. S——, married, aged 37, Burbank, Minn. I saw him in consultation April 7, with Dr. Alex. Ridgway and Dr. Christian Johnson, the latter of whom reported the case in detail in the *Northwestern Lancet* for May 1, 1901. The patient is an active, nervous man, in good health usually, except for slight attacks of muscular rheumatism after severe labor and exposure. The parents were of nervous temperament.

About the middle of February, after working hard on his farm, he came to Minneapolis, from which place he

drove to his home, a distance of one hundred miles. The weather was severe, and he suffered from exposure. On February 27 he had a "splitting headache," and in the evening was exhausted. On the following morning, February 28, after working a short time, his legs became weak, and his power in the arms diminished. On March 1 he was unable to get up or dress himself. The evening of the same day he was completely helpless; his breathing was labored and wholly abdominal; there was severe pain and tenderness over the plexus and nerve trunks, with paresthesia. Tactile sensation is preserved and areas of hyperesthesia and thermohyperesthesia are present, but no anesthesia. The reaction of degeneration is marked in practically all of the muscles, and the knee-jerks are abolished. The bladder and rectum are not involved in the paralysis, and there has been no rise in temperature or pulse.

At this time, June 1, Dr. Johnson writes me that the patient has recovered motion in the trunk muscles, the biceps of the left arm and the right extensor femoris, as well as slight motion in some of all of the regions involved. The patellar reflexes are nearly normal.

The following two cases are of an apoplectic type, and so rapid was the onset and progress of the disease that the diagnosis may be questioned; they were among the first cases seen. I did not make a diagnosis until later, after a study of the milder forms.

CASE 9.—Miss S——, aged 26, bookkeeper; seen in consultation with Dr. W. A. Hall March 4; family and personal history good; typhoid six years ago, from which she fully recovered; has worked steadily for years, but has been well. On the afternoon of March 3, she spoke of a soreness and stiffness between the shoulders, but continued her work until evening. At 7 p. m. there was a rapid loss of power in the right hand and arm. At 3 a. m. the following day she wakened, and found both arms powerless. She became alarmed and sent for her physician. Later in the morning she lost power in the legs; there was embarrassment in coughing and swallowing, and the breathing was abdominal. At noon she was moved to the hospital, and soon afterward had a temperature of 100° F. As there had been no rise in temperature before, it is probable the rise was due to the journey. At no time was there pain, disturbance of sensation or tenderness of the nerve trunks. When I saw her, forty hours after the onset of the disease, she was unable to speak above a whisper, could breathe only with the head lowered, and was unable to swallow. The saliva accumulated in the mouth to such an extent as to require constant removal by cotton plungers. During the same afternoon she became cyanosed, but was temporarily revived by oxygen inhalations. She grew worse rapidly, however, and died at midnight, having lived less than sixty hours from the onset of the disease.

CASE 10.—Mrs. McN——, aged 40; patient of Dr. E. S. Kelly; a person of large frame and overfat, but with a good personal, and a negative ancestral, history. During February, 1901, she had an attack of influenza, accompanied by fever and pains of moderate severity. She recovered in ten days. On March 4, in the evening, she had a paresis of the right hand and arm, which disappeared in a few hours. The following day, or twenty-four hours later, there was a return of the paresis in the right arm, and a partial loss of power in the left leg. The third day all extremities were helpless, except slight movements of flexion in the fingers and toes; the breathing was diaphragmatic, and swallowing was difficult. There was no loss of sensation, and no pain. Death occurred on March 7, three days after the onset of disease.

I regret that no autopsy was permitted in either of these cases, although I am convinced that they were fulminating forms of multiple neuritis.

Contrast these cases with the ordinary types of polyneuritis due to overwork and exposure, and secondary infection, with a weakness beginning in one extremity, gradually extending, and accompanied by marked tenderness and severe pains, anesthesias, changes in the skin and nails, atrophy of muscles, prolonged paralysis and slow repair. One or two of the cases cited correspond to the usual descriptions found in the text-books. The majority, however, are not typical, as is shown by the prominence of the motor symptom; the ability to stand and walk, even though the patient is unable to rise from the recumbent or sitting position; the frequent absences of trunk pains, tenderness, paresthesia and anesthesia; the evident involvement of the cervical plexus, as demonstrated by the inability to control the muscles of the neck and the implication of the phrenic nerve; the minimum muscular atrophy and the rapid improvement in most of the cases.

Many of these cases, notably the two that were fatal, and a few of the others in which the typical pains, anesthesia and tenderness were not present, suggest Landry's paralysis, and yet is it not probable that many of the cases reported as Landry's paralysis are cases of multiple neuritis, in which the infection or inflammation of the nerves of the extremities extends to the sacral, lumbar, brachial and cervical plexus, and from there to the roots of the cranial nerves? If the patient dies within a few days, the presumption seems clear that death is due to the implication of the vagus; should he live for weeks or months it is fair to presume that the degeneration of the nerve trunk extends beyond its superficial origin, to the cells from which it springs.

Rowden, in the *Lancet* (London), recently reported a case of Landry's paralysis in a child, in which the symptoms began by a progressive, symmetrical motor paralysis of the neck, arms, forearms, chest and legs; with the sensation not involved until within a few hours before death, and then only slightly; with no rigidity, twitching, pain or spasm; and with the mental functions unimpaired and no bladder or rectal disturbance. Although this case is supposed to be one of descending type, I believe it could more wisely be classed as multiple neuritis.

The treatment of the foregoing cases was mainly symptomatic. Free elimination was established, salicylate of soda in full doses was given; strychnia and iron, to overcome the anemia which was marked in all of the more profound cases. Faradism, massage, salt baths and forced feeding completed the care and treatment.

DISCUSSION.

DR. HUGH T. PATRICK, Chicago—Such a remarkable series of cases should not be allowed to pass without comment. The idea suggested to me primarily by the paper was the close similarity of the symptoms in some of these cases to the disease known as Landry's paralysis and to inferior encephalitis. Although the discovery of the neuron as a histological entity has added nothing to our knowledge of the physiology and pathology of the nervous system, I think it is sometimes of value as an aid in the expression of our ideas on these subjects. When a motor neuron is affected by a certain poison, it is reasonable to suppose that the motor cell, with its long process, the motor nerve fiber, is acted upon as a whole. In the cases reported by Dr. Jones it is reasonable to suppose that those individuals, or their motor neurons, were particularly susceptible to the poison of influenza, and that such poisoning would

be very apt to cause symptoms which could be partly explained upon the theory of peripheral disease and partly upon that of central or nuclear disease. Probably a combination of the two was present. The term multiple neuritis is convenient, but I regard it as a misnomer. Certain neurons are peculiarly susceptible or vulnerable to the action of certain poisons, and the poison in Dr. Jones' cases must have particularly affected certain parts of the motor system. The process is one of poisoning, not inflammation at all. I have seen three cases, one of them being still under observation, which I think showed very graphically the intimate relationship between this peripheral nerve degeneration and the acute nuclear affections. Two of my cases, which came to autopsy, presented the symptom of weakness of the lower face, neck and shoulders, with some impairment of power in the arm, but with very little involvement of any motor structures below the shoulders and no sensory disturbance to speak of. In one of the cases, I have thus far examined 800 sections from the medulla and pons; they show nothing but what could be interpreted as the result of an intoxication acting upon the nervous structures. I think we would be better able to understand the so-called acute multiple nuclear affections, Landry's paralysis and myasthenia gravis, if we looked upon them as forms of intoxication having an affinity for the neurons of certain individuals or, as I think it is better expressed, toxic paralyses due to the peculiar susceptibility of certain neurons to certain poisons.

DR. HAROLD N. MOYER, Chicago—In continuation of Dr. Patrick's remarks, I would emphasize the conception of the neuron as applied to this class of lesions. It is sometimes impossible to distinguish between peripheral and nuclear lesion. In the cases which we have just heard reported I think some were peripheral while others were nuclear. A pure peripheral lesion is really one that is extra-nervous in its origin. The nerves are liable to the same conditions as are other organs. For example, they may be the seat of cloudy swelling and exudate, with edema in the sheath and consequent pressure symptoms. That, to my mind, is a clear conception of a peripheral nerve lesion. With a nuclear lesion the body of the cell is involved, including the neuro-axon.

DR. W. A. JONES, in reply—I agree with Dr. Patrick that multiple neuritis is not a very good name for the disease under discussion—that intoxication neuritis or infection neuritis is perhaps better. My belief is that the more profound infections of this type are associated very soon with a central lesion, and yet some of these cases, although comparatively severe, showed a remarkable and rapid recovery. One or two of my cases have recovered completely, and the rest have so far recovered that we may call them practically cured. Those cases, I think, were not of central origin. The axis cylinder or the outside of the neuron was probably only partially implicated and the repair was very rapid. It seemed to me that those cases which resembled Landry's paralysis illustrated the uncertainty of Landry's pathology, and I think we should classify them under one general head and not attempt to divide them into different types.

THE INCREASING STERILITY OF AMERICAN WOMEN.

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CORRECTION OF DIVORCE STATISTICS.

In my recent paper on *Sterility*[1] I have introduced the subject of *divorce* as one of the factors correlated with sterility and parallel with it in a general way. In reviewing the article at my leisure I find some very palpable statistical errors in my discussion of this subject, and whilst the result remains the same and the subject is in itself of no especial interest to the profession, these errors must be promptly remedied lest they lead to farther mistakes and entanglements. Divorce records are believed by statisticians to fall far short of scientific accuracy, and in collating these uncertain data I have repeatedly placed incompatible figures side by side (Table 4 of this paper) comparing the ratio of *"divorces to marriages"* with that of *"divorced to the married;"* the relative proportion in the different states and countries is practically the same, but this is incidental and the error of such comparison is so patent that it must *apparently invalidate all that has been said; actually nothing is altered* as far as the increase of divorce and my comparison between divorce and sterility among different groups is concerned; nevertheless, I desire to correct the error by recalling all statistical data on divorce contained in my recent paper and will here present the correct figures and comparisons.

In that admirable work on "Marriage and Divorce," Carroll D. Wright* says: "It has been exceedingly difficult to arrive at a reasonable, legitimate conclusion for a comparison between divorces granted and some other condition or status . . . the comparisons made in a few states between marriages celebrated and divorces granted is worth simply what it has been given for, but it is essential for a just consideration of the whole matter that a comparison should be made between the married couples existing and the divorces granted." This I have done, and in addition I have presented the ratio between divorces granted and marriages performed in the same year (Rhode Island), and also the ratio between divorced persons and married persons, using whichever seemed to serve the purpose best. Approximately the same errors must occur by use of the same method in different states and among different classes of our population, so that regardless of the precise accuracy of the data the *relative values* and the *relative ratio of increase or decrease* can not be questioned.

CORRECTED TABLE IV.—DIVORCE.

A.—RATIO OF DIVORCES TO MARRIAGES.[1]

	Registration Year.			No. of Divorces to 100,000 Marriages.	No. of Marriages to One Divorce.
Indiana	1900	....	....	17,000	5.7:1
Rhode Island	1898	1899	8.0:1	12,000	8.2:1
Ohio	1899	....	....	9,174	10.9:1
Michigan	1898	....	....	8,928	11.2:1
Connecticut	1899	....	....	6,330	15.8:1
Massachusetts	1898	....	....	5,347	18.7:1

B.—RATIO OF DIVORCED TO MARRIED COUPLES.[2]

			No. of Divorces to 100,000 Married Couples.	No. of Married Couples to One Divorce.
Michigan	1874		306	326
Michigan	1894		418	240
United States	1880		203	490
United States	1890		540	185
Switzerland		—Mostly for 1885.—	195	513
Denmark			184	543
France			80	1,250
Germany			77	1,300
Sweden-Norway			27	3,704
New South Wales			26	3,846
Russia in Europe			11	9,090
Italy			10.6	9,434
South Australia			10.4	9,615
United Kingdom			8.6	11,600
Canada			1.6	63,000

C.—INCREASE OF DIVORCE AS EXEMPLIFIED BY RHODE ISLAND.[1]

Year.	No. of Marriages.	No. of Divorces.	No. of Marriages to One Divorce.
1890.	3195	294	13.1:1
1891	3320	275	12.1:1
1892	3502	296	11.8:1

1. "The Increasing Sterility of American Women," THE JOURNAL A. M. A., xxxvii, p. 891.

* Special Report of the Commissioner of Labor in the United States, 1889, revised 1891, p. 147.

Year.	No. of Marriages.	No. of Divorces.	No. of Marriages to One Divorce.
1893	3544	301	11.8:1
1894	3271	280	11.7:1
1895	3497	373	9.4:1
1896	3327	363	9.2:1
1897	3137	372	8.4:1
1898	3278	400	8.2:1

The sixth paragraph after Table 4 in the original paper presents correctly the relative frequency of divorce among the various groups of our population and strikingly shows the parallelism between divorce and sterility. But, strictly speaking, the figures indicate *not the ratio of divorce,* but the proportion of *divorced to married* persons, highest among *negroes,* 0.67 per cent.; next among *native Americans,* 0.61 per cent.; less among *Americans of foreign parentage,* 0.5 per cent., and least of all among *foreigners,* 0.3 per cent.

Whilst this does not accurately represent the ratio of divorces to marriages, as stated in the paper, it does practically and it likewise represents the relation of these groups toward each other as far as sterility and miscarriage are concerned, and inversely their relative position as to fecundity.

No words of mine can more clearly indicate the correlation of the factors named than does the proportion of divorced to married among these groups and to demonstrate this parallelism I have introduced the subject of divorce; to this extent it is of interest to the medical observer, and I have desired to place the facts correctly before the profession, fearing that the comparison of incongruous elements originally made must necessarily prejudice the reader against any deductions therefrom.

As sterility has increased, so has divorce, and we see this demonstrated whether we compare the ratios of divorce to marriage in earlier or in recent years; this increase is well shown in Table 4, Part C, and I have selected Rhode Island because the vital statistics of this state in many respects, especially in all that relates to marriage and divorce, are more carefully kept than is customary in this country. The data given must be taken for what they are worth; absolute precision can not be claimed, but they do positively show what even the faulty tables of my original paper indicated, the same steady increase in the ratio of divorce as in that of sterility and the noteworthy parallelism of both.

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APPENDICECTOMY—SURGICAL HISTORY. (1758-1888).

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Mestivier, in 1758, was the first to record a case of lesion of the appendix. Eight years later, in 1766, De La Motte refers to a case which he found on making an autopsy. Laennec, in 1803, by his studies on the peritoneum made some headway. But no one seemed to have remarked the significance of his discoveries. In 1824 Lonyer-Wildermay reported a fatal case of peritonitis and gave the perforation of the vermiform appendix as the cause. Husson and Dance, in 1827, gave a detailed description of the diseases of the cecum. Both Lonyer-Wildermay and Melier believed that the diseases of the cecum and appendix were separate and distinct. Melier, in 1827, reported four cases, three of which were perforations of the appendix with fulminating peritonitis. He considered the causes, character and consequences of appendicitis; he even anticipated the possible advantages of operation. He says: "If it were possible to establish, with certainty, the diagnosis of this affection we could see the possibility of curing the patient by an operation. We shall some day perhaps arrive at this result." Ferrall, in 1831, gave it as his opinion that phlegmonous tumors were not principally due to the appendix or peritoneum, but to the retro-cecal connective tissue. But it is due to Dupuytren that the doctrine of the cecum was so long held. In his writings (about 1833) no mention of the appendix in this connection is made. Copeland, in 1834, was the first to claim that the appendix may be the primary cause of serious trouble.

Burne, 1837, made a clinical distinction between the cecum and appendix; but he agreed with his contemporaries that the cecum was the prime cause of the trouble of the right iliac fossa. In 1839 he changed about and claimed that the cecum played but a minor part in causing disease. Albers also caught a gleam of truth. From this time on many cases have been reported showing the important part played by the appendix vermiformis in disease. Grisolle, 1839, made mention of a case of gangrene of the appendix, as did also Berard in 1840, who reported a case of gangrene of the appendix: death resulted from partial peritonitis. The crural artery was found to be obliterated. Becquerel, 1841, reported a case of lumbrocoids found in the peritoneal cavity, having come from a perforation of the appendix. A case of death from a similar cause is recorded in the *Transylvania Medical Journal* in 1849. In the *Quarterly Journal of Medicine and Surgery,* 1843, there appeared an account of a man who died at the age of 88, whose appendix vermiformis was found to contain 122 robin shot. During life this man never had any symptoms indicating disease of this organ. It appears that he was excessively fond of game, and that the shot found in the appendix was supposed to have been contained in the game. Dr. Willard Parker seems to have been among the first, if not the very first, to realize that an operation was necessary in cases where the appendix was affected. He believed the earlier the operation was performed the greater the chances for recovery. His first case was in 1843. He simply made an incision and evacuated the cavity. This was not reported, however, until 1867. Nelson, 1846, reported a case of inflammation of the appendix vermiformis from gallstones lodging in it. Hancock,[3] in 1848, described a case he cured by operation. Thurman[4] about the same time (1848) reported a case of hernia and enlargement of the vermiform appendix with fecal abscess and fistula; the patient made a complete recovery after discharging a small piece of bone. The same year saw the publication of Shaw's[5] case of hernia of the vermiform appendix. Alford, in 1854, was probably the first man to make a primary operation for appendicitis. He was followed by Howe, in 1860. Elliot,[8] in 1859, reported a case of ovarian tumor with ulceration of the appendix vermiformis. Gerlach's[7] publication, in 1859, cleared up the darkness that for years had gathered around this subject. Pepper,[10] in 1867, reported a case of healing from perforation of the appendix; but in process of healing, the appendix had been converted into a fibrous cord. In 1873, Bontecou[11] reported three cases of abscess and pelvic peritonitis

1. From Registration Reports or Vital Statistics of the various States, collected by Rev. S. W. Dike.

2. Figures originally presented by Prof. Wilcox, of Cornell, reproduced in the Victorian Year Book, 1894, and the Registration Report of Michigan, 1894, with additions by Dr. Wilbur, of Lansing: to these I have added the number of married couples to one divorce in order to present a means of comparison between the ratio of divorces granted to married couples existing in a given year, and of divorces granted to marriages celebrated in the same year.

from perforation of the appendix vermiformis, relieved by operation. In one case the cavity of the abscess was evacuated through an incision. Five days later typhoid fever set in, and the patient died. Autopsy developed a perforation of the intestine; the appendix was adherent, but, otherwise, indicated a perfect recovery. In another case he aspirated the abscess before making an incision. He claims that this use of the aspirator gave certainty to the diagnosis and enabled the operator to make a bolder use of the knife. Dr. Bontecou did not excise the appendix in any of his cases. After evacuating the pus he injected the cavity daily with a solution of carbolic acid. He says: "I have seen but few cases recover, and those were treated at an early stage by leeching, poulticing and opium given in some form in decided doses, and by physiological rest to the bowels." These were his conclusions after having had twenty cases. He agreed with Dr. Parker as to the advisability of an early operation. Bontecou appears to be the first to observe and record the association of appendicitis and typhoid fever. F. R. Noyes[12] reported in 1875 a death from a raisin seed in the appendix. Gouley,[13] 1875, reported a case of perityphlitic abscess due to perforation of the appendix. The patient had also an inguinal hernia. The abdomen was incised to the seat of the abscess. The cavity was cleaned out and packed with lint. The patient recovered and had no more trouble from the hernia. The patient in this case had swallowed a broken tooth two years previous to this attack, but no signs of the tooth were found during the operation. Mason, 1876, reported a case of perityphlitis with perforation of the appendix; he decided to operate. After benumbing the skin with ice he introduced a No. 3 trocar attached to the aspirator and then passed a bistoury alongside the trocar. The patient seemed to do well for several days after the operation, but then began to sink and died 74 days after the operation. A partial autopsy revealed a perforation near the junction of the appendix and caput coli. The wall of the abscess surrounded and bound down the caput coli and appendix. Sanns, 1880, aspirated an abscess supposed to be appendiceal. Noyes, in 1883, collected 100 cases in which an operation had been performed; 90 of these were in the United States. Barlow and Godlee[16] made, Sept. 16, 1885, an exploratory operation to determine the cause of an abscess in the right iliac fossa. Pus was found about the appendix, which proved to be the seat of the disease. The pus was evacuated, but the appendix was not removed. Hall,[17] on May 8, 1886, at 11 p. m., in operating upon a case in which he had diagnosed strangulated hernia, opened what he supposed to be a hernial sac of the scrotum, found the vermiform appendix, which he removed, enclosed in exudates and extensively swollen until it resembled a normal testicle in size and shape. An existing perforation was supposed to be due to tuberculosis, which was far advanced. H. B. Sands,[18] on Dec. 30, 1887, diagnosed a case as acute septic peritonitis caused by perforation of the vermiform appendix. He opened the abdomen and evacuated a pus cavity, trimmed the margins of the perforation off in the appendix and sutured them with silk. The appendix in this case was not excised. McBurney,[19] on May 23, 1888, removed the appendix in a case in which Dr. W. K. Otis had diagnosed appendicitis. This is the first case in which an operator deliberately planned for and did remove a diseased appendix. Lister's great discovery of the principle of asepsis gave surgeons great encouragement to interfere in cases that had been previously thought hopeless. Then it remained for the magic hand of Lawson Tait to perfect appendicectomy as he has all other operations upon the abdominal viscera.

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Clinical Reports.

INTRACRANIAL RESECTION OF THE SECOND AND THIRD BRANCHES OF THE FIFTH NERVE

FOR THE CURE OF NEURALGIA, FOLLOWED BY PARALYSIS OF THE FACIAL NERVE.

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HISTORY OF THE CASE—By Dr. Newmark.

The patient, who is now 59 years old, had been suffering from neuralgia in the right side of the face for several years, and had undergone much medical and surgical treatment elsewhere before he applied to me for relief in 1897. His pain was chiefly in the area of distribution of the third branch of the trigeminal nerve. Five years before, an operation had been performed on his right lower jaw and had afforded him some alleviation; a second operation two years after the first was of no avail.

His pain raged in the lower jaw and shot into the tongue. He was repaid for even most cautious attempts to take food with paroxysms of pain; he could not swallow his saliva without enduring agony; also, his sleep was seriously disturbed by his sufferings.

There was an area of diminished sensibility to touch on the right half of the chin and lower lip, a consequence of the section of the mandibular nerve which had been previously practiced. To cold and heat also this area, as well as an adjoining part of the cheek, presented a reduction of sensibility. A gentle touch applied to a point on the right side of the lower lip or to one in front of the auditory meatus would provoke an attack of pain. The paroxysms were attended with twitching of the muscles on the affected side of the face.

The sensitive points were cocainized, and while they remained insensible, paroxysms were not excited from them. This procedure, however, although often repeated, did not benefit the patient materially. Numerous other measures were tried; also many drugs and applications of electricity.

As some writer having alleged that he had once cured trigeminal neuralgia by unremittingly passing a galvanic current through the head for about an hour, this tedious remedy was patiently essayed. Such efforts having been unsuccessful, surgical treatment was indicated. Two peripheral operations had been done in vain. The implication of the tongue showed that the trunk of the third branch of the nerve at least would have to be severed; and an occasional irradiation of the pain into the area supplied by the second branch, made it appear advisable to proceed even more radically. The extirpation of the Gasserian ganglion was accordingly suggested as offering the best prospects of permanent relief. This operation was undertaken on Sept. 8, 1897.

MEMORANDUM OF THE OPERATION--By Dr. Sherman.

The operation was that called the Hartley-Krause. The opening in the skull was made by chiseling. The exposure of the second and third branches of the trigeminus was uneventfully accomplished. A small nick had been unintentionally made in the dura, and the loss of cerebrospinal fluid through this permitted the dura to collapse somewhat and gave easier access to the nerves. The only disadvantage was the need of pretty constant sponging.

The nerves were cut at their foramina of exit and pulled from the ganglion. The third branch brought a portion of the ganglion with it; the second broke close to the ganglion. No attempt was made to get the first branch. The opening in the dura was sutured, and the wound closed by replacing the flap, less the bone. Healing was aseptic.

In view of the resultant facial paralysis, it is pertinent to state here that at no time during the operation was any tissue handled roughly, nor was any tissue cut beyond those specified in the descriptions of the operation. The flap was, of course, folded down over the zygoma, but no pressure was made by this on the facial nerve, nor could it have been so made; and the assistant who held this flap, Dr. S. J. Hunkin, is positive that no pressure was so made. Moreover, the integument in front of the ear did not show any abrasion or contusion after the operation.

At present (August, 1901), there is quite a depression above the zygoma, and that process itself is prominent. The scar up in the hair is linear. The right eye is constantly open, and the lower lid is semi-everted; the natural wrinkles and folds are absent, and the cheek flops. He loses some food and more drink out of the corner of the mouth. He describes to me his general condition as being better than it was three and a half years ago. He is a laboring man and is able to do light odd jobs.

MEMORANDUM OF THE RESULT—By Dr. Newmark.

When the patient recovered from the anesthetic, he was free from pain, and on Jan. 9, 1901, he declared that he had not suffered since. But there is an alloy to the satisfaction at this result. After the operation, it was observed that the right side of the patient's face was completely paralyzed, all the branches of the facial nerve being involved, and the paralysis has not abated a whit.

The anesthesia resulting from the section of the trigeminal branches occupied the areas of the second and third branches of the fifth nerve in the right side of the face, and in the right half of the mucosa of the tongue, cheek, and hard and soft palate. At first the mucosa of the right nasal passage and the right half of the tip of the nose seemed slightly affected in regard to sensibility, but this was not observed a few days later. Taste was abolished on the anterior two-thirds of the right half of the tongue. The muscles supplied by the third branch of the trigeminal were, and are, paralyzed.

The anesthesia has diminished in degree in the course of the years that have elapsed since the last operation; but it has not appreciably receded. In the supra-orbital region, especially, it is less profound than formerly. In the temporal region the sensibility to cold is affected more than touch. Pin-pricks provoke pain throughout the affected area, even on the chin where sensation is most diminished. The patient says he does not feel his food when it lodges in the right side of his mouth, and investigation reveals the same condition of sensibility in the buccal mucosa as existed there three years ago. He also says that when being shaved he distinctly feels the scraping of the razor on the cheek.

We have found it impossible to explain why the facial nerve became paralyzed.

MULTIPLE RUPTURE OF THE CHOROID.*

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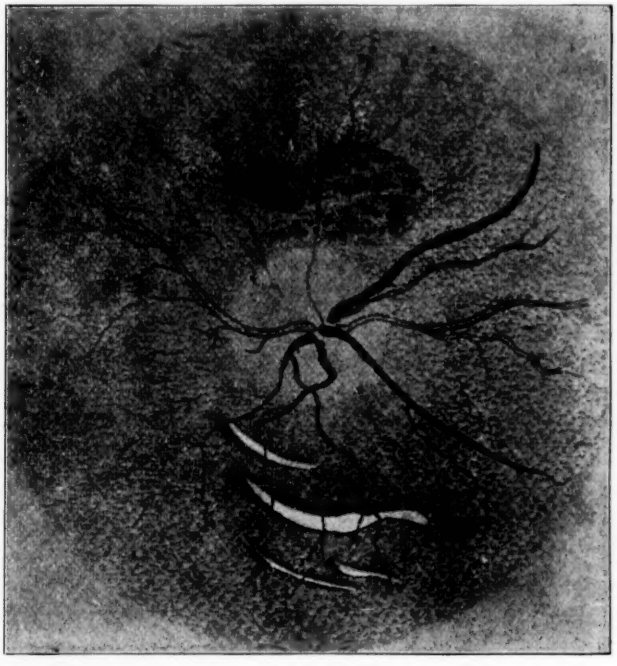
BLOOMINGTON, ILLINOIS.

Johnny T., aged 11, while playing ball, Sept. 30, 1901, about 2:30 p. m., was struck in the left eye by a small hard rubber-ball. His playmate threw the ball at a distance of 25 or 30 feet. The blow was of sufficient force to knock the patient to the ground. Patient became sick, turned pale, and vomited three or four times; sickness lasted until 5 p. m., after which time he became drowsy. Vision of injured eye was entirely lost at time of accident. On October 1 pupil was dilated, some pain and tenderness on gentle pressure; he could see a little better than the day before. On October 2 he consulted me; vision was not so distinct as on the previous day; he



could see only the shadow of a hand passed before the eye. Pupil was dilated, long axis in 60th meridian. Tension was lowered. Ophthalmoscopic examination showed the fundus to be clouded and the sight of the lesion obscured from view. After two or three days more the lesion could be definitely outlined, which is shown in the accompanying cut. Patient's vision at the end of the 5th week was 1-3. On the temporal side of the eye, in the illustration, are shown four crescentic or sickle-shaped rents in the choroid. The white streak is the sclera. The margins of the crescents, especially the largest one, are discolored, due to disturbance of the pigment. The retinal vessels pass over the site of the lesions, which show that there is no rupture in the retina.

On the other side of the papilla, beginning near its margin, is a peculiarly shaped area showing changes in the pigment of this portion of the fundus.

* Reported to the McLean County Medical Society, Nov. 7, 1901.

Meteorologic Factors in Dissemination of the Plague.—Rosanoff publishes a historical study of the plague in *Botkine's Gazette*, in which he endeavors to establish a causal connection between the dissemination of the plague and the prevailing winds.

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SELF-DIGESTION OF TISSUES.

If the liver of a healthy animal is removed under aseptic precautions and so preserved as to exclude bacterial action, it will be found that after a considerable time, from a few weeks to a few months, the tissue softens and disintegrates. Examination of the residue shows that it contains in large amounts substances that are associated with the results of digestive processes, such as leucin and tyrosin, in earlier stages albumoses. Attention was first directed to this phenomenon of self-digestion, or *autolysis*, by Salkowski. As will be observed the products of digestion are analogous to those obtained by trypsin digestion, as characterized by leucin and tyrosin, rather than those resulting from pepsin action. Other observers, however, have shown that this latter ferment is present in the tissues normally, notably in muscles, but under ordinary circumstances the alkalinity of the tissues prevents the pepsin from producing any changes.

Martin Jacoby[1] followed up this work and showed that self-digestion was a perfectly normal and constant property of tissues during life. It is by no means limited to the liver; apparently it occurs likewise in all functionating cells. However, during life the products of the self-digestion are removed by the circulatory fluids as they are formed, so that they do not collect as in dead organs, hence are less prominent. In these columns attention was recently called to the part played by fat-splitting ferments within the tissue cells in fat metabolism.[2] Quite probably an altogether similar set of ferment activities accomplishes proteid metabolism. However, for lipase a reversible action has been shown, so that it is quite clear how the fat is split into diffusible substances that enter the cell and there recombined under the influence of the same ferment. As yet we lack proof that enzymes which decompose proteids can also build them up, but there is every reason to believe that such is the case. Granting this, our knowledge of proteid metabolism is as clear as it now is concerning fat, and we may consider that the enzyme present in the tissue cells is continually acting to combine digestion products into proteids, and to break the proteids down again as necessary to establish chemical equilibrium. These steps we see completely in intestinal digestion and absorption of proteids. Within the intestinal canal proteid is split up by trypsin. As the absorbed products of the splitting can not be found in the blood leaving the intestines they are evidently recombined in the walls of the intestine. Here is a complete analogy with fat absorption pointing decidedly to a reversible action of the trypsin.

Auto-digestion undoubtedly plays a prominent part in pathological processes, *e. g.*, the absorption of necrotic tissue. Petry[3] has demonstrated autolysis in a carcinoma of the breast, and the disintegration and softening within tumors is well known. Because of the similarity in the accumulation of leucin and tyrosin in acute yellow atrophy of the liver, and in phosphorous poisoning, with the results of auto-digestion Jacoby thought that here might be a direct explanation of the processes of this obscure disease. He experimented and found that phosphorous poisoning did increase autolytic processes markedly, but he did not particularly clarify the situation.

Conradi[4] has found that the products of autolysis have a decided bactericidal effect, probably due to certain of the aromatic groups derived from proteid. This may be of some importance, particularly as a possible explanation of the difference in susceptibility of certain organs to certain infections, *e. g.*, muscle and tuberculosis.

1. Zeitschr. f. Phys. Chem., 1900, xxx.
2. JOURNAL A. M. A., Nov. 9, 1901.
3. Zeit. f. Phys. Chem., xxvii, 1899, 398.
4. Beitr. z. Chem. Phys. u. Path., 1901, i, 193.

PROPHYLAXIS OF VENEREAL DISEASE.

The report of the committee appointed by the Medical Society of the County of New York to suggest methods for the prophylaxis of venereal disease is an interesting document. It was presented in abstract at the last meeting, November 25, of the Society, and we are enabled to give its salient points by anticipation. Each of the usually suggested methods for the repression of prostitution and its inevitable consequences is discussed, and the preventive measures that can be applied with promise of success, considering the ethical temper of our people, are especially dwelt on. The committee has not been led into impracticabilities, either by the difficulty of the subject or by the urgent need for action that is felt by every medical man who considers seriously the dangers to public health at present pharisaically overlooked.

The committee, in this investigation, shows that at least 150,000 cases of venereal disease were under treatment in the borough of Manhattan during the year 1900. These statistics emphatically point out the dangers to public health from this too commonly ignored source. As to methods of limitation and suppression, the committee is very frank. Legal regulation of prostitution seems inadvisable, not only because of the opposition that any question of even qualified toleration of vice arouses among English-speaking people, but especially because all methods of legal regulation hitherto attempted have proved failures. The general trend of the sentiment of specialists against this form of attempted limitation of venereal disease was very evi-

dent at the International Congress for Venereal Diseases, held at Brussels two years ago.

Segregation of prostitutes in one part of the city smacks too much of quasi authorization, or at least toleration, of vice to be well borne by our people. On the other hand, the committee considers that domiciliary segregation is not only advisable but absolutely necessary. Immoral persons must not under any circumstances be allowed to live in the same house with those who lead moral lives. Especially where there are families with children, prostitutes must not be allowed to ply their trade. To accomplish the much-desired end no new legislation is needed, but only the judicious and not too stringent enforcement of existing laws. All external signs of prostitution must be suppressed. Significant red lights, red curtains and the like, street soliciting, window tapping, etc., must be effectually done away with.

The most important prophylactic measure that medical men can bring about is the education of the public with regard to risks of venereal diseases and the difficulty and uncertainty of their cure. High schools and colleges should be advised to give special instruction with regard to the dangers of venereal disease. Family physicians should express themselves candidly, and young men should be told that sexual indulgence is not necessary to health and may involve serious infection with enduring disease. The transmission of syphilis should be made a penal offense. The statute could not often be enforced, but at times it would inflict deserved punishment, and its presence on the statute book would of itself be a striking educational measure. Because of recent revelations in the social conditions in New York City with regard to procurement for prostitution, the committee advises legislation raising the age of consent and the enactment of severer punishment for procurers.

The committee considers the powers at present conferred upon the City Board of Health are sufficient to enable that body to take due measures for the protection of public health against the spread of all contagious diseases, and especially of venereal diseases. The Board of Health must be aroused to a sense of its responsibility in the matter, and much can be accomplished without waiting for further legislation. As prompt cure, or at least suppression, of the contagion as soon as possible is eminently desirable, all hospitals that receive state aid should be required to have arrangements for the treatment of venereal diseases. On the other hand, all advertisements of preventives, etc., that encourage vice by promising impunity should be absolutely suppressed.

In a word, the committee concludes that the careful humane enforcement of existing laws is the best prophylaxis for venereal disease possible under present conditions. The recommendations are such as can be endorsed by physicians and ought not to arouse opposition on the part of those who have not been able to conscientiously support the methods of regulation that have sometimes been recommended.

THE PROPHYLAXIS AND TREATMENT OF RHEUMATIC ENDOCARDITIS.

Existing evidence points strongly to the fact that acute endocarditis is an infectious disorder of varying degree of severity, dependent probably upon a multiplicity of different micro-organisms. Of the diseases with which acute endocarditis is associated or that it complicates, acute rheumatism is the most common, although it must not be overlooked that the inflammation of the endocardium may be an accompaniment of any one of a number of other infectious processes, and possibly it may be the sole obvious manifestation of such a process. While there is as yet no agreement as to the bacteriology of acute rheumatism, it is generally admitted that the disease is of bacterial origin, and it is to be inferred that the primary morbid process and its secondary complications are dependent upon the same etiologic factors. Now, while we have in the salicylates an almost specific remedy in the treatment of acute rheumatism, it appears that they are inadequate to prevent the development of complicating endocarditis and likewise of exerting any curative influence upon the developed disorder. It is, therefore, a matter of no little importance to be possessed of a means capable of fulfilling these latter indications, and some observations recorded by Dr. Richard Caton[1] should prove of interest and value in this connection.

For a period of more than fifteen years, covering an experience of upward of 500 cases of acute rheumatism, Dr. Caton has pursued a plan of treatment that has yielded satisfactory results. For the rheumatism, salicylates with an occasional cholagogue are administered, and a light diet permitted. The entire body with the exception of the head is clothed in flannel and the patient is kept strictly at rest in bed for several weeks. Any lingering pains can be dissipated by the use of small local blisters.

During the period under consideration the endocardium was involved in 92 of the cases of rheumatism. In those in which it appeared probable that the endocardial inflammation had commenced and that one or more valves were acting imperfectly, the lesion being only of brief duration, absolute physical rest was enjoined for at least six weeks. Sleep was encouraged, pain and mental excitement were avoided, and the diet was simple and unstimulating. In order to stimulate the trophic and reparative process in the heart, without impairing the vitality or increasing the mechanical activity, a succession of small blisters was applied to the wall of the chest between the clavicle and the nipple. For the purpose of stimulating absorption and removal of the material effused into the substance and upon the surface of the inflamed valves, sodium iodid was administered. Of 61 of the cases in which a murmur and other signs of valvulitis existed at the time of the patient's admission, 41 left the hospital with apparently sound hearts, while in 20 the signs of valvular disease persisted. Of

1. Edinburgh Medical Journal, October, 1901, p. 335.

31 of the cases in which the bruit and other signs of valvulitis developed while the patient was under observation, 28 left the hospital with apparently sound hearts and three with valvular disease. With reference to the employment of the plan of treatment outlined it is pointed out that it is of no use unless begun early, within the first two or three weeks at least. Further, after apparent recovery has taken place the patient should for some three months refrain from arduous muscular effort and from anything that puts strain upon the heart.

GENERAL DECREASE OF BIRTH-RATE AND DEATH-RATE.

While so much is being said about the increasing sterility of American women and the decline in the birth-rate in this country, it is worth while to look around and see others as we see ourselves. Mr. William E. Curtis has recently compiled the statistics, as to this point, of a number of European countries as a piece of newspaper correspondence and the figures he gives are interesting. Taking the last twenty-five years for his study, he finds that the annual number of births per 1000 of the population has fallen from 36 to 29.3 in England and Wales, from 35.6 to 30.5 in Scotland, and in Ireland from 26 to 22.9. Other European countries have also suffered; the births per 1000 have decreased from 40.1 to 35.9 in Germany, from 30.9 to 26.2 in Sweden, from 36.4 to 32 in Holland, from 26.1 to 21.9 in France, and in less proportion in still other European countries. Only in Norway has there been an increase, and that only one-tenth of 1 per cent. It seems evident that a decrease of human fertility is one of the tendencies, or, rather, conditions of modern civilization, and that, as a rule, the higher the civilization and the more extensive the culture among the general population the greater this decrease. The exceptional state of affairs in Norway, so far as it exists, is probably correlated with a greater retention of primitive habits of living among the inhabitants; possibly also some racial factor may exist, as in Denmark, another Scandinavian country, the decrease was only eight-tenths of 1 per cent. In Sweden, on the other hand, the decrease was above the European average, so that this factor is not universally valid. In Italy the decrease was also very slight, seven-tenths of 1 per cent., but it is particularly a land where the proletariat, from climatic and other reasons, might be expected to multiply. For Russia no figures are given; its birth-rate is undoubtedly high and may not be decreasing. In the greater part of our own country we have no accurate birth records, but it is certain that we are not behind Europe as regards a declining birth-rate. It is not probable, however, that the real figures, could they be obtained, would be as formidable as some alarmists have tried to represent them, nor does a declining birth-rate necessarily indicate immoral practices as some have strongly suggested. The higher standards of living cause late marriages and a larger proportion of celibates, and while there are other legitimate causes, this alone is sufficient to reduce the birth-rate to an appreciable if not to a very considerable extent.

As regards national welfare, a declining birth-rate is not by any means a necessarily bad symptom. Taking the figures referred to again we find that parallel with the decrease in the ratio of births there has been a corresponding decrease in the death-rate. Thus in England and Wales the death-rate has fallen from 22.2 in 1874 to 18.3 in 1899; in Scotland from 23.2 to 18.6, in Germany from 26.7 to 21.5, in Holland from 22.7 to 17.1, and in other countries in varying proportions; in Hungary the decrease has been as great as 15.6 per 1000. These indicate that the increase of population need be but little affected by the lessened number of births; in England and Wales, for example, the excess of births over deaths in 1899 was still 11 per 1000, in Germany 14.6, in Holland 14.9, in Sweden 9.6, etc. Only in two countries are the statistics actually discouraging to any extent, namely, in France with an excess of births over deaths of only eight-tenths of 1 per cent., and in Ireland with its increasing death-rate of 17.6 against 17.3 in 1874 and excess of births of only 5.3 per 1000. We would almost be inclined to doubt these latter figures were it not for the fact that Ireland has been steadily drained for many years of its most productive population and the possibility that the increase of deaths may be due to its larger proportion of aged people. In France the condition may be fairly said to be alarming at the present time and its statesmen do well to seriously consider the situation.

In this country we are not so badly off. The census bulletins show a slight decrease, nine-tenths of 1 per cent., in the percentage of native whites from native parents, and a somewhat larger increase, 2.3 per cent., of those of foreign parentage, the constant disturbing influence of immigration being noticeable in all of our statistics of population. In many of the states the native-born Americans of pure-native parentage form but a small proportion of the whole, and the total of the foreign born in the population (10,460,085) in 1900 was greater than at any previous period of our history. It will be many years before population in this country reaches such an equilibrium as will enable us to fairly judge its increase from natural causes or before we have sufficiently reliable vital statistics to do so. In the meantime we may reasonably assume that on the whole we are not very much worse off than our neighbors as regards reproductiveness and that our death-rate is as low, and from indications even lower, than with the most of them. We must also bear in mind that what reliable vital statistics we have are confined to a few of the older political divisions where the disturbing elements of immigration and emigration, especially the latter, are most in evidence, and hence are not a safe index of conditions in the country as a whole.

THE EXCLUSION OF THE CHINESE.

The Chinese Exclusion Act is to be up before the coming Congress, and for sanitary reasons it is to be hoped that it will be re-enacted. In China they have settled the Malthusian problem by the use of almost every possible method of disregard of sanitation, and in this country they maintain to the fullest extent their oriental habits and traditions. As successful evaders of wholesome regulations they have hardly any equals, excelling in this respect every other foreign element in our population. This fact makes any restricted immigration of Chinese laborers under proper safeguards an impossibility; any restrictive measure must necessarily be a wholesale one. There is a great deal of wasted sentiment on this subject, and it is a hard fact that we have to meet, but we must protect ourselves. That this is a Christian country and we regard them as heathen, should not make us altruistic to our harm. The nation, like the individual, should care for and protect its own home.

THE SHIFTY ZOOPHILE.

We are still receiving communications from the antivivisectionists who, having failed in refuting Dr. Keen's charges of garbling and misrepresentation, are endeavoring to raise new issues in their attacks on the medical profession. The latest received is not signed by any individual, but instead, in typewriting, "Editor, *The Animals' Defender.*" It is strange how these people hesitate to come out openly under, or over, their own signature. In this case the animals' defender wants us to give him, or her, some notoriety by entering into a controversy about experimentation on human beings. Just what this defender of animals has to do with the defense of human beings against savages known as physicians we do not know. THE JOURNAL has treated these antivivisectionists with all due courtesy in the past, but declines to open new subjects till their controversial morals have improved and they acknowledge what all the world can see, that their misrepresentations and garbling of quotations have been amply demonstrated by Dr. Keen. It is a pity that would-be reformers have so often such unsymmetrically developed consciences, and that the good cause of humanity to all living beings, not excluding mankind, should be injured by cranky extremists and utterly unscrupulous advocates.

ON THE DEFINITION OF INSANE DELUSION.

The definition of an insane delusion is one of the stumbling blocks of medical experts, second only to that of insanity, a definition of which in a complete and satisfactory way is an impossibility. The fact that false beliefs are held by a large proportion of mankind, and that some of the most utterly irrational are persistently maintained, by apparently intelligent persons in other respects, confuses jurists and the public, and is sometimes used to obscure actual evidence of mental disorder. It is important that physicians, at least, should have clear ideas on this subject and be able to give a reason for the faith that is in them when called to testify as to the value of such indications. In a recent paper[1] C. H. Hughes discusses this subject and offers what in his opinion is the correct criterion of an insane delusion. Taking as his text a recent contested will case in which the sanity of a deceased believer in eddyism was challenged, he points out that only false beliefs due to an existing condition of brain disease can properly be called insane delusions. It is not the mere perversion of the intellect, but the morbid element that is evidence of insanity. "Insane delusions," he says, "are subjective errors of judgment of entirely false judgments brought about by a mind involved in disease implicating the brain. The insane mind may momentarily assent to the unreality of a delusion, but immediately reasserts it." This is probably as satisfactory a definition of an insane delusion as can be given; it covers the conception, but, with every other definition of the kind, it does not always materially aid in the diagnosis. It is perfectly possible to suppose, for example, a person at a spiritualistic seance accepting and interpreting the phenomena according to his mental morbidity, while the others about him are merely exercising the credulity of the average believer. The differentiation of the psychopathic from the non-psychopathic beliefs is, therefore, still sometimes a problem for the expert, and, as Dr. Hughes points out, all the other stigmata, physical as well as mental, must be studied. Delusions are, therefore, not in themselves the first or exclusive criteria of insanity; they are evidence only in connection with other symptoms of a diseased brain by which their pathologic character can be determined.

1. Alienist and Neurologist, October.

THE TETANUS CASES IN CAMDEN, N. J.

The Board of Health of Camden, N. J., where a recent epidemic of tetanus after vaccination has occurred, has sent out a circular giving the facts of the case. Samples of all the different makes of vaccine employed have been tested by the State bacteriologist of New Jersey and found free from tetanus germs, which fact alone shows that the vaccine matter itself was innocent in these cases. The history of each case of tetanus, moreover, has been carefully collected. In every case vaccination was practiced in a cleanly and correct manner, the subsequent infection being due to the patients' own neglect or that of their parents, and their omission to present themselves to the attending physicians to receive proper attention. One case of tetanus occurred in a boy who had not been vaccinated, but had received a gunshot wound, thus showing that the infection is not confined to any particular source. A still further evidence of the innocuousness of vaccine matter itself is noted by the fact that in no case did it appear until long after the usual incubation period, as in every case the tetanus occurred not less than three or four weeks after vaccination. It developed also with every make of vaccine employed. Animal experiments also demonstrated the freedom of the vaccine from tetanus germs; in no case was tetanus produced on a susceptible animal. Moreover, during the past three weeks a very large number of persons were vaccinated in Philadelphia and elsewhere with vaccine from the same sources as that used in Camden, and no tetanus followed. The only reason for the epidemic that can be assumed is the atmospheric and telluric con-

ditions that have existed. There had been a long period of dry weather, with high winds, so that tetanus germs have been constantly present in the atmosphere. It is noticed that in all cases after a careful examination that the patient was exposed by the scab being knocked off or removed, infection resulting, and frequently by the children picking the scab with their dirty fingers. Facts then would seem to exonerate the vaccine from the accusation of having produced tetanus in these cases. It may be possible that a vaccination wound offers a specially favorable nidus for tetanus germs, more so in fact than an ordinary cut or open wound. The number of cases following vaccination would make this seem possible, if not probable—hence the need of more care for complete asepsis and the prevention of any possible contact with infected matter in such cases. It is unfortunate, however, that there has been any such coincidence of tetanus and vaccination, since the occurrence of these cases will be used to the utmost by anti-vaccinationists without regard to the actual facts in the case.

INDIGESTION AND SIN.

A prominent surgeon who holds certain eccentric opinions in regard to dietetics is reported to have said that "total depravity is often nothing more than total indigestion." There is less wisdom in this statement than some might think; it is one of those utterances that catch the vulgar and is consoling to those who have good digestions, but who do not feel otherwise safe as to their salvation. Dyspepsia may make a man unpleasant in some ways; it is apt to aggravate any existing sourness of disposition, but in its more pronounced forms it has, at least, a tendency that leads its victims to appreciate the vanity of earthly things. The Frenchman's recipe for happiness—"a good stomach and a bad heart"—agrees better on the whole with the natural depravity of mankind, as we see it in daily life. If we sum up and average human villainy, we will probably find that the dyspeptics have not been the greatest criminals, and if we were to poll the sufferers from gastric symptoms we would not find among them any undue proportion of depravity. In fact, it is the cheerful happy-go-lucky individual that creates the most trouble; he is the one who yields to all the pleasant vices; he does not pay his debts, but lets the other fellow walk and worry and he cultivates egoism generally. The smooth, calculating villain is also a non-dyspeptic, and if we take the mass of pleasant, benevolent-looking visages we would probably find that they do not necessarily attend any special corresponding virtues, but often simply mean that the wearer has been good to himself. They may also mean a sort of dementia; this is perhaps as often as not the signification of the look of peace and content so coveted by female Eddyites and such. The strenuous life that we talk of and that most of us are obliged to live, is not specially conducive to placid looks, and still less so with the more or less abdomino-visceral disturbance that is often its accompaniment. The opinion quoted as co-relating total depravity and indigestion may be taken as a sample of statements that are more epigrammatic than sensible.

Medical News

COLORADO.

Health Department Needs.—The Denver Health Department has asked for a $60,000 appropriation for 1902.

Found Not Guilty.—An irregular physician of Ouray, tried on the charge of practicing medicine last April, without a license, was found not guilty in Judge Stevens' court, November 15. The case will probably be taken to the Supreme court.

Trainmen Instructed in First Aid.—One of the resident surgeons of the Union Pacific Railway in Denver has commenced a course of instruction for trainmen on first-aid. The first lecture included shock, the application of temporary dressings, and temporary hemostasis.

Physicians Must Register.—Dr. Seymour D. Van Meter, secretary of the State Board of Medical Examiners, has issued an ultimatum to the physicians who have not complied with the state law which makes necessary the recording of their certificates with the county clerk. He will have the licenses revoked of those who fail to obey the order in a reasonable time.

Outdoor Sanitarium.—The Rocky Mountain Industrial Sanitarium, organized in Denver last spring, is now in operation. On a ten-acre tract, five miles from Denver, fifteen or twenty patients in the early stage of consumption are, under the plans of the promoters, virtually taking care of themselves. The rules of the institution compel a continuous outdoor life to be maintained summer and winter. Each patient is provided with a roomy tent, plenty of warm clothing and blankets, and a small stove to be used only in extremely cold weather. Experience has proved that with proper food and clothing, and a life in the open air and sunshine, artificial heat is unnecessary, and becomes absolutely unbearable to the patients, who without exception are gaining rapidly. The co-operative idea has already been put into force, for many of the patients are supporting themselves wholly or in part by doing the work on the premises.

ILLINOIS.

Addition to Peoria Hospital.—The addition to the Cottage Hospital, Peoria, erected by John C. Proctor at a cost of more than $140,000, is now complete and will be formally dedicated and opened in a few days.

Rock Island County Medical Society has been incorporated at Rock Island by Drs. Carl Bernhardi and George G. Craig, Rock Island, and Dr. Lewis D. Dunn, Moline, not for profit, but for medical and scientific research.

Smallpox is increasing throughout the state, but especially in the central and southern portions, despite the efforts of the State Board of Health. Springfield has 4 cases; at North Alton the public schools have been closed on account of 9 or 10 cases; Carlyle reports one case; Clayton has two cases and the public school has been ordered to be closed.

Personal.—Dr. Robert E. Calhoun, Chesterville, has moved to Arcola.——Dr. James H. Pittman, Roseville, has opened an office in Camp Point.——Dr. William D. Nelson, Jr., Marietta, is about to locate in Canton.——Dr. George H. Fricke, Park Ridge, who has practiced in that village for thirty years, has sold his practice to Drs. Charles A. Dodson and Charles M. Noble, and has moved to Chicago.——Dr. Charles P. Spann has disposed of his interests in Thebes and will move to Alto Pass or Murphysboro.

Chicago.

Mercy Hospital has purchased for $20,000 property on Prairie Avenue and expects to extend the hospital to cover the 98 feet of frontage thus secured.

The Hospital of the Sisters of the Holy Family of Nazareth has negotiated a loan of $150,000 to complete their new hospital building just erected at a cost of $400,000.

People's Hospital and Training School, to conduct a hospital and training school for nurses, has been incorporated at Chicago by Drs. I. C. Gary, Gordon G. Burdick and George W. Webster.

Charity Hospital Not Liable.—Judge Chytraus, in a suit for $25,000 damages brought against the Presbyterian Hospital on account of injury alleged to have been the result of a mistake in medicine made by a nurse, instructed the jury to find for the defendant on the ground that a hospital chartered for the purpose of receiving and treating patients without charge is not liable for the carelessness or negligence of its servants, providing it has selected those servants with due care.

IOWA.

Dr. **J. W. Crofford,** Lamoni, has been taken to Fort Madison to serve out his sentence of thirteen years' imprisonment for criminal abortion and murder in the second degree.

Dubuque detention hospital for contagious diseases is to be erected immediately at a cost of $1500. The plans provide for a one-story frame building 60 by 24 feet, with two wards and four private rooms.

Smallpox Bill Paid.—Dr. Charles H. DeWitt, Glenwood, who rendered an account of $1150 for caring for smallpox cases in Mills County last winter, but was obliged to sue the board of supervisors, as they reduced the bill to $900, has settled the case out of court, and will receive the full amount of his claim.

The Insubordination of Dr. Pray.—The State Board of Medical Examiners has referred the case of Dr. Gilbert L. Pray, Lake City, to the State Board of Health for action. Suit had been brought against him to revoke his certificate, but it was shown he was competent and recognized the smallpox cases in Lake City, but failed to report them. The case is, therefore, one for the action of the health board by criminal prosecution. He has repeatedly refused to report smallpox cases.

Smallpox.—Dr. E. W. Burke, Iowa Falls, informs us that there are seven well-developed cases of smallpox in that city. ——Laporte is quarantined on account of the diseases; churches and schools are closed and public meetings prohibited.——At the Musquakie Indian Reservation, Tama County, there have been 35 deaths out of 65 cases.——Sioux City has now about 50 cases of the disease.—It is reported that there are about 30 cases in Waterloo.——Six cases are reported from Flint River township, Des Moines County, two from Marion County, one from Charles City and four from Reed township, Clayton County.——At Ida Grove there are 28 cases.——In Denison 13 cases have been discovered.

KENTUCKY.

Dr. De Vault Guerrant, Richmond, has located in Stoops, Madison County.

Smallpox is increasing in Bath County.——At Roe's Run a case has been reported.——Several cases have been discovered at Red Lick, Madison County.——At Jackson, Breathitt County, there are from 60 to 75 cases owing to violent opposition to vaccination.——Two cases have developed in Lexington.

The Doctor Wins.—The judgment of the Henderson Circuit court in the case of Dr. W. W. Walker against the city of Henderson was reversed by the Appellate court, with instructions to enter a judgment for appellant for the fair value of services rendered. Dr. Walker was placed in charge of the county pesthouse during the smallpox epidemic of 1899. He sued to recover on a contract for services at the rate of $15 per day.

Dr. and Mrs. Henry Martyn Skillman, Lexington, celebrated the fiftieth anniversary of their marriage, October 30. Dr. Skillman has practiced in Lexington for fifty-four years, was probably the first physician who administered chloroform in the West, and is the only living member of the faculty of the medical department of the old Transylvania University. He was president of the Kentucky Medical Association in 1869, and has been a member of the American Medical Association for more than forty years.

MARYLAND.

The Medical and Chirurgical Faculty of Maryland now has 680 active and 17 honorary members.

Students Enrolled.—Of the 656 students enrolled at the Johns Hopkins University 227 are candidates for the degree of M.D. and 25 are physicians in attendance.

Baltimore Mortality.—For the week ending November 23 there were 200 deaths, 21 being from pneumonia, 17 from consumption, 8 from cholera infantum, 3 from typhoid fever and 2 from diphtheria.

Personal.—Dr. G. Herbert Beckley has located at Reisterstown, Baltimore County.——Dr. C. H. Ohr, the oldest past grandmaster of masons in the world, is ill at his home in Cumberland.——Dr. Jackson Piper, Baltimore, sailed for Europe November 23, and will be gone all winter.——Dr. Remsen, President of Johns Hopkins University, was given a reception at Bryn Mawr College, Pennsylvania, November 22.

The Instructive Visiting Nurse Association of Baltimore, designed to provide trained nurses to visit in their homes the sick poor who can not or should not be sent to a hospital, and to instruct their families and friends in simple, necessary rules for the care of the sick, reports 9766 visits during the year for nursing, 2192 visits for advice and instruction, and 1236 new visits. From June to September, inclusive, 3112 visits were made. Mrs. William Osler is secretary of the association.

State Board of Health Report.—The annual report of the State Board of Health contains the reports of the secretary, Dr. Fulton, of the chemist and bacteriologist, of local health officers, etc. Dr. William H. Welch, President of the Board, calls attention to the fact that in it, for the first time in the history of the state, is presented an approximate account of a year's losses through death and an accurate exhibit of the relative importance of preventable causes of death. He calls attention particularly to "the overshadowing importance of tuberculosis," and suggests that Maryland single it out "for direct attack." He calls attention to the inadequateness of the inspection of animals and meat at the abattoirs. That the epidemic of smallpox which has been steadily increasing in the United States since 1898 has inflicted no great injury on Maryland, is due, he thinks, to the high estimate by the people of vaccination and the vigilance of the local authorities, especially those adjacent to infected areas in neighboring states. The present burial permit law went into effect in June, 1900. Dr. Fulton points out that tuberculosis heads the list of mortality with 12.7 per cent., pneumonia having 5.9, infantile diarrhea 10.2, and typhoid fever 4.5 per cent. The ratio of deaths from preventable diseases to total mortality is 39.4 per cent. The book contains the reports of 35 out of 43 organized local boards of health. The chemist reports 173 examinations of water. The bacteriologist reports 1137 examinations for typhoid, tuberculosis, diphtheria and malaria.

MICHIGAN.

Passive Criminals.—Dr. Fred R. Belknap, Niles, thus characterizes physicians who fail to report suspected cases of dangerous communicable diseases.

War on Quacks.—The Wayne County Medical Society has appointed a committee to co-operate with the prosecuting attorney in prosecuting all physicians who practice without legal graduation and registration.

Battle Creek Sanatorium Exempt from Taxation.—The Circuit court has decided that the Battle Creek Sanatorium is a charitable institution and as such is exempt from taxation. The institution sued the city for $5245.35 taxes paid under protest and has received a verdict, with interest. The case will probably be carried to the Supreme court.

Smallpox is said to exist at 87 places in the state, and 1500 cases of the disease are known to exist.——In the logging camps of Kalkaska County, it is prevalent, and a pesthouse is being built.——A death has occurred at Yuma.——Floodwood is strictly under quarantine.——Houghton County has more than 30 cases.——Cases are reported in the Upper Peninsula, from Metropolitan, Niagara, Escanaba, Bay de Noc and Indian town.——Dr. Albert B. Simonson, of the Calumet and Hecla Mining Company, has the disease and is quarantined at his home in Calumet.

NEW YORK.

Smallpox has appeared in Olean and Corning.

Emergency Hospital for Utica.—The Ravine Hospital, Utica, is being put in shape to care for contagious diseases.

State Hospital Site.—The board of trustees of the State Hospital for the Care of Consumptives, after inspecting many sites, believe that Raybrook, on the west side of the Adirondacks, is the best suited for the proposed institution. While Gov. Odell has not finally approved of this site it was learned that he thought it the most available of those inspected.

Buffalo.

Free vaccination dispensaries have been inaugurated by the Health Department, one in the heart of the Polish district, the other in the Italian tenement house district.

The Retention of Wende.—Mayor-elect Knight gave a hearing to those desiring the retention of Dr. Ernest Wende as Health Commissioner. A petition of over 300 prominent physicians, together with a business-men's and bankers' petition, was presented. Dr. Wende, however, we hear has not been retained.

For Examining Bullets.—Herbert M. Hill, city chemist and professor of chemistry at the University of Buffalo, and Dr. Herman G. Matzinger, of the New York State Cancer Laboratory, have each been awarded $150 for examining chemically and bacteriologically the bullets used by the assassin of the late president.

Marine Hospital Needed.—The International Seamen's Union, which was in session in Buffalo, has passed resolutions petitioning the surgeon-general of the Marine-Hospital Service and Congress to increase by better hospital facilities the service in Buffalo. At present there is no district marine hospital in Buffalo, but a ward is leased for the care of seamen in one of the hospitals.

Smallpox Situation.—Nine new cases of smallpox were reported November 27 at Buffalo. A free dispensary for vaccination was opened in the Polish district, but this not sufficing the police have been instructed to assist in compulsory vaccination. Buffalo finds herself with an isolation hospital inadequately heated and improperly equipped. Only a few patients can be accommodated, and should the number of cases increase the city will find itself in a bad plight.

New York City.

Dr. Charles Walsh, Brooklyn, while walking in Fifth Avenue, slipped on the ice, and falling sustained a fracture of the right patella. He was taken to the New York Hospital.

Appointments.—The Commissioner of Corrections, Brooklyn, has appointed a physician at the Kings' County Penitentiary at a salary of $900 a year. The Board of Health has appointed eleven additional medical inspectors of schools.

X-Ray Laboratory Donated.—The late Edward N. Gibbs, of Norwich, Conn., left by his will, instructions to equip a laboratory for experiment and use of *x*-ray apparatus for Bellevue Hospital Medical College. This is now completed and is known as the "Edward N. Gibbs *X*-Ray Laboratory of the University and Bellevue Hospital Medical College."

Longevity.—Dr. A. L. Wood read before the last monthly meeting of the Hundred Year Club a paper on "The Influence of Water Upon Health and Longevity." He said that for the last twenty years he had used distilled water freely, and in the past year had drank about a gallon a day. His own robust appearance, together with certain physical feats that he performed, were offered in proof of his views regarding the benefits to be derived from taking water in this way.

NORTH DAKOTA.

New Licentiates.—The State Medical Board announces that ten of the recent applicants for licenses were successful.

Smallpox.—The city school at Mayville has been closed on account of a case of smallpox.——Grand Forks has a case of confluent smallpox.——Fargo has had a fright, because a blind pencil-vendor's boy, after going about town all day, was found to be ill with smallpox.

Personal.—Dr. Olaf Th. Sherping, Enderlin, will locate in Fergus Falls, Minn.——Dr. James Halliday, Reynolds, has decided to locate in Osnabrock.——Dr. William L. Grant, St. Thomas, has moved to Grand Forks.——Dr. William B. Coyle, Lakota, has taken into partnership Dr. James W. Wells, St. Paul, Minn.——Dr. William D. Wagar, Crary, has located in Michigan City.——Dr. William C. Langhorst, Steele, has moved to Chicago.

OHIO.

Children's Hospital on Fire.—Nine sick children narrowly escaped being burned to death in a fire which damaged the Children's Hospital, Cleveland, November 20.

Dr. David H. Miller, Newark, has been prosecuted by the city health officer for failing to report a case of smallpox, the patient being his wife. The home of Dr. Miller has been quarantined.

The "Doctor" Disappeared Under Fire.—Dr. Giuseppe A. Purpura, Cleveland, the Italian whom the State Board of Medical Examiners suspected of practicing under a false diploma and whose case was still under consideration, suddenly left Cleveland and numerous unconsoled debtors.

PENNSYLVANIA.

The Shamokin Board of Health has elected the following officers for the ensuing year: Dr. J. W. Bealor, president; C. F. Heim, secretary; Dr. Richard H. Simmons, medical inspector, and Francis Hoover, health officer.

The Rights of Consumptives.—The right of consumptive immigrants to land in this country has been denied by the United States Circuit Court in Brooklyn, N. Y., in the case of Thomas Boden, an alleged or supposed consumptive of Philadelphia, who is held at Ellis Island, and will be deported unless the decision of the court is overruled.

Personal.—Dr. Samuel C. Brietenbach, the oldest physician in Roxborough, is seriously ill with pneumonia.——Dr. Isaiah J. Wireback, Monessen, has located in Uniontown.——Dr. David H. Warner, Lebanon, has been appointed municipal physician.——Dr. Charles W. Jennings, Danville, has been appointed one of the resident staff at the Harrisburg Hospital, to succeed Dr. John Howard.

Scarlet Fever.—Shamokin had 88 new cases of scarlet fever reported in November.——In York City, 14 cases are reported by one physician.——The disease is epidemic in Freeport, where 34 cases exist.——In Mifflin township, the villages of Whittaker, Homeville and Bellwood are alarmed because of the prevalence of the disease.——A serious epidemic has broken out at Munhall near Pittsburg, where 20 cases have been reported in the last few days.——The schools in East Fallowfield township have been closed on account of the disease.——There are so many cases at Canonsburg that the public schools have been closed.——The schools at Natrona have been closed on this account.

SOUTH DAKOTA.

Personal.—Dr. Robert L. Murdy, Aberdeen, has been appointed surgeon for the Milwaukee road, vice Dr. Samuel J. Coyne, deceased.——Dr. George MacMurphey, Elkton, will locate in Ortonville, Minn.

Canton Hospital Accepted.—The Asylum for Insane Indians at Canton, erected for the government at a cost of $53,500, and intended to accommodate all the insane Indian wards of the government, is completed and has been accepted.

Compulsory Vaccination in Yankton.—The Yankton County Board of Health has ordered that after Jan. 1, 1902, no child or student be admitted to any school or college within the county without a physician's certificate of successful vaccination.

Smallpox is making its appearance in the Black Hills.——Nine cases are reported from the vicinity of Gayville and the same number from Garrettson.——The public schools at Hot Springs have been closed on account of a case in the family of a janitor.——Gayville has been quarantined on account of the disease.

TENNESSEE.

Personal.—Dr. Plummer Haynes, Nashville, has located in Lynnville.——Dr. James K. P. Blackburn, Lynneville, has moved to Oklahoma City.

Smallpox is prevalent at Liberty, where several cases have developed and the public school has been closed; at Dresden, where three cases are reported; at Savannah, where there are six cases, and at Pittsburg Landing.

Anti-Cocain Crusade.—The Chattanooga authorities are making energetic efforts to put a stop to the illegal dispensing of cocain by druggists. The first-fruits appeared when, in the first case, the druggist was fined $25 for the offense.

Knoxville City Hospital.—The following became members of the staff of the new city hospital: Consulting—Drs. John M. Boyd, Michael Campbell, Chalmers Deaderick and John M. Kennedy; medicine—Drs. Benjamin D. Bosworth, William R. Cochrane, William Delpuech, Charles P. McNabb and David H. Williams; surgery—Drs. Benjamin B. Cates, Thomas Ap. R. Jones, Henry J. Kelso, Samuel R. Miller and Walter S. Nash; gynecology—Drs. James M. Black, James S. Garrard, Samuel M. Miller and Robert P. Oppenheimer; eye, ear, nose and throat—Drs. Claudius M. Capps, Charles H. Davis, John H. Kincard, and Benjamin F. Young; diseases of children—Dr. Ernest R. Zemp; dermatology—Drs. W. S. Austin and James F. Scott, Jr.; obstetrics—Dr. Samuel L. Jones; pathology—Dr. W. R. Lockett.

TEXAS.

Anti-Expectoration in Austin.—An ordinance has been introduced in the city council making expectoration on the sidewalk an offense punishable by a fine.

Medical Examiners' Meeting.—The next meeting of the Board of Medical Examiners for the State of Texas will be held at Waco, beginning on Tuesday, May 13, 1902.

Personal.—Dr. Herbert E. Stevenson, El Paso, has been appointed state quarantine officer at that point, vice Dr. Charles F. Norton, transferred.——Dr. Bruce Wallace, Houston, was thrown from his buggy, November 22, and seriously hurt.

The Boyd-Brumby controversy in Houston has been ended by the city council, which at its meeting, November 25, created the office of chief medical inspector and appointed Dr. Brumby thereto. Dr. Boyd still holds office as Health Officer.

Plague Quarantine Raised.—On November 18, following advices of Surgeon-General Wyman, United States Marine-Hos-

pital Service, State Health Officer Tabor raised the quarantine against Glasgow and Liverpool.

WASHINGTON.

Contagious Diseases.—Two cases of smallpox have developed at Farmington.——Colton has formed a board of health, which promises strict quarantine of all cases of smallpox in the town until the disease is stamped out.——The Dalles has an epidemic of diphtheria.

Personal.—Dr. Irwin A. Stiles, of the Northern Pacific steamship *Olympia*, has given up the sea and will locate in Tacoma or Seattle.——Dr. Dunlop Moore, U. S. Marine-Hospital Service, who has just returned from Alaska, has been ordered to the Philippine Islands.

Northern Pacific Training Nurses.—Chief Surgeon Courtney, of the Northern Pacific railway, has made a new departure by opening a training school for nurses in connection with the railway hospitals. Preference is given to daughters or female members of families of employes. The headquarters will be at Brainerd, Minn.

"Not Guilty, But Don't Do It Again."—A "doctor" of Spokane charged with practicing medicine without a license as required by the law of 1901, was found not guilty, the law was declared constitutional, and the defendant was warned that, should he practice without first having taken the required examination and procured a license, he would be prosecuted.

CANADA.

Surgeon-Captain Keenan has been presented with the Cross of the Distinguished Service Order, a decoration only eclipsed in value in so far as military decorations are concerned, by the Order of the Indian Empire. Dr. Keenan was the surgeon to the Stratheona Horse in South Africa.

Ottawa's Death Rate.—The total number of deaths in Ottawa for the past civic year, as shown by the Medical Health Officer's report, was 1273. The report shows a slight increase over last year, which totaled 1146. The largest number of deaths among adults was caused from tuberculosis, 125 in all. Next came pneumonia with 102; heart disease, 88; convulsions, 72; old age, 73; diphtheria, 65; scarlet fever, 52.

Toronto Orthopedic Hospital.—In the Third Annual Report of this hospital is shown that during the three years of its existence the receipts have arisen from $2,601.52 to $6,444.83 in the second year and $12,343.23 in the third year. So great have been the demands upon this hospital that a new site has been secured and improvements are now under way which will cost $30,000. When completed the new building will accommodate 60 patients.

A Dowieite Sentenced.—Eugene Brooks, an elder of Dowie's Christian Catholic Church in Zion, was, on November 27, found guilty and sentenced to three months' imprisonment without hard labor for aiding and abetting a man who was recently found guilty of manslaughter at Victoria, B. C., who had failed to provide his infant children suffering from diphtheria with proper medical attendance. The Appellate Court of British Columbia has determined that medical attention is a necessity of life.

Smallpox.—St. Michael's Hospital, Toronto, is under strict quarantine owing to a case of smallpox having inadvertently gained access to its wards.——Toronto has just opened a new smallpox hospital. It cost $5,000 and has accommodation for 25 patients.——In the Province of Quebec there are 81 places where smallpox has broken out, and in all there have been 340 cases. There are at present 32 cases in the Civic Hospital in Montreal. Four inspectors have been appointed in Montreal to watch all trains as they come into the city. In Quebec City 88 houses have been placarded since the beginning of the outbreak, and there are at present 23 placarded and quarantined.

Toronto Sick Children's Hospital.—The 26th annual report of this institution shows that since the foundation of the hospital 43,204 children have been treated and that 20,000 have been restored to full health. During the past year 770 were cared for in the indoor departments and 5500 in the outdoor departments. Of the indoor patients 530 were cured, an increase of 147 over 1900, while 154 were improved and 44 unimproved and 42 died, a decrease of six as compared with the previous year. Seven of these died within three hours of their admission, eight within six days, five within two weeks and twelve within the month. There is at present a deficit of $13,000 on this hospital.

A Toronto Judge on Hospital Fees.—One of the leading surgeons of Toronto recently sought to recover from a hospital patient the moderate fee of $30 for an operation for appendicitis. The judge decided in favor of the patient, thus delivering himself on the question of charging hospital patients any fee: "The public has a right to assume that the treatment is free. These institutions are supported by charity, donations, grants, etc., and therefore the presumption is, at least so far as the public wards are concerned, that all treatment is to be free. The right to pay depending upon the ability to pay is not recognized in law. If patients have to pay then it is not a public institution. Doctors on the staff can not recover unless they first notify the patient of the rules and regulations of the hospital."

FOREIGN.

Sir William MacCormac Dead.—A cablegram announces the death of this celebrated English surgeon, December 4. A full report will be given in next issue.

Plague in Russia.—Advices from Vienna state that the bubonic plague is alarmingly prevalent in many cities in Southern Russia.

Scientific Prizes at Budapest.—The Budapest Medical Society has conferred its endowed prizes this year on Hoegyes, Lenhossek and Schaffer for their work on internal medicine, anatomy and neurology. The prizes average 800 kronen.

Smallpox in London.—On November 30, there were 420 cases under treatment. Up to that date 116 persons had died of the disease and 233 had recovered. The exceedingly high mortality is due to the fact that London is the "worst under-vaccinated city in the civilized world."

Vienna Medical Club.—This club was organized for social purposes exclusively, but it has now been transformed into a scientific society, the "Gesellschaft fuer innere Medizin," with three presiding officers of the three medical clinics of the university, Nothnagel, Neusser and von Schroetter.

Honors to Baccelli.—A committee has been formed at Rome to present Baccelli with a gold medal in token of appreciation of the great success of his endovenous injections of sublimate in arresting and curing foot and mouth disease in the southern countries of Europe. The government pays the expense of this treatment of cattle in Italy.

Semi-centennial of the Ophthalmoscope.—Helmholtz presented his ophthalmoscope to the Koenigsberg Medical Society Nov. 13, 1851. The semi-centennial anniversary was celebrated at Berlin by a collection of historical exhibit of ophthalmoscopes in the ophthalmic clinic at the Charité, besides numerous meetings, etc., devoted to the subject. About 120 specimens were collected from various countries.

Statues to Pasteur.—The little mountain town of Arbois was the home of Pasteur's youth and he always sought it on his vacations. The town recently unveiled a fine statue of its illustrious son. Paris is also erecting a statue to Pasteur to be surrounded by six groups, each sculptured out of a single block of marble, the pediment to consist of twenty-five such blocks. It was originally designed for the Medicis Place, but the proximity of the underground railway suggests the possibility that the foundations may not be strong enough for such a weight, and the statue will probably be erected in the Place de la Sorbonne. It is proposed to print Pasteur's life in pamphlet form and distribute it among the children of France as the most imperishable monument that could be offered him.

Deaths in the Profession Abroad.—The entire number of the last *Brazil-Medico* is devoted to eulogies of Professor F. de Castro of Buenos Ayres, who died November 11. The funeral procession included more than two thousand mourners, from the President of the republic of Brazil to weeping charity patients. De Castro's principal works were on heart disease, propædeutic medicine and sanitary subjects. His native city, Bahai, has ordered a memorial tablet to be placed on the house where he was born in 1857, and named the street from him.——The death of Professor S. E. Sosa is announced from Mexico, and also of Dr. F. Semeleder, who accompanied Maximilian to Mexico as his body physician, and settled there after

the emperor's death.——The professor of laryngology, Dr. E. de Rossi, recently died at Rome.

Nobel Prize for the Founder of the Red Cross.—The committee appointed by the Legislature of Sweden and Norway to confer the Nobel prize of $50,000 to be awarded to the person who has done the most to promote peace, passed over the apostles of arbitration and the writers and artists who have portrayed the horrors of war. The choice, we are told, wavered between Frederick Passu, the aged pioneer of the idea of universal peace, and Henri Dunant, the founder of the Red Cross, finally deciding upon the latter. Dunant was born at Geneva, Switzerland. He served as a volunteer assistant in the field hospitals during Napoleon's campaign in Italy, in 1859. Amidst the desolate scenes of the battle of Solferino he conceived the idea of an international organization to relieve the sufferings on the battle-field. He published a book, "Memories of Solferino," which was translated into many languages and prepared the soil for the germination of the idea of the Red Cross Society. He devoted all his energies and means to the realization of this ideal, and is now living in poverty in his old age. The prize endowed by the City of Moscow, to be awarded at the international medical congresses, was also bestowed on Dunant.

Correspondence.

The Enforcement of Medical Laws.

LAWRENCEBURG, KY., Nov. 23, 1901.

To the Editor:—The editorial and original articles in the issue of THE JOURNAL of November 16, discussing the enforcement of medical laws, are worthy the attention and approbation of every member of the profession in America. As a Kentuckian, I appreciate the tribute you pay to the profession of Kentucky in its effective work in ridding the state of quacks. Individually, however, on account of my recent experience in dealing with a quack, I am not so enthusiastic and feel that my efforts in protecting the profession and the public will hardly be so "strenuous" in the future as they have been in the past. Your suggestion that "what is needed to enforce the medical laws is a well-organized state society with its branches ramifying into every county and with a paid attorney of its own, to act for the profession, independent of, or as an assistant to, the public prosecutors" is good as far as it goes, but I would go one step further and suggest that the state society create a fund by collecting a small annual assessment fee of its members not only for the purpose of paying its attorney but to meet the expenses of adverse judgments, damages, costs, etc., that may accrue from litigation.

As indicated by THE JOURNAL, and by Drs. Happel and Harison, the co-operation of the county and state societies is absolutely essential for the enforcement of medical laws. Individual effort counts for naught, besides incurring great annoyance, public opprobrium, loss of time and most probably the expense of defending a civil suit for damages by the quack who is instigated by some envious member of our profession, as the following personal experience forcibly illustrates:

In April, 1899, while passing the street, my attention was attracted by the "spiel" of a quack announcing the virtues of his remedies, consisting of an "electric belt," which he offered for sale, and bottles of a nostrum which he gave to each purchaser of a belt. This mere announcement you will note by referring to the laws regulating the practice of medicine in Kentucky clearly brought the quack within the jurisdiction of the medical practice act. It occurred to me to consult the prosecuting attorney and to learn if there was a legal way to dispose of this faker. After consulting the statutes he informed me that there was a way of instituting legal process, but refused to act unless I assumed all responsibility of the warrant causing his arrest; this I did. The quack was arrested and finally brought to trial; however, he was not incarcerated in the meantime but released on his own recognizance. A hung jury resulted from the first trial, and he was released on the second trial. However, his easy escape is easily accounted for by a most remarkable condition of affairs. Out of six local physicians three testified in favor of the quack, claiming, in their opinion, that he was not engaged in the practice of medicine within the meaning of the medical practice act. What is more remarkable still, one of the three physicians who testified favorably to the quack instigated him to bring a civil suit for damages against me for $5,000 and admitted under oath on the witness stand that he had been in communication with the quack relative to employing counsel for him. The mere fact that a physician had caused the arrest of the quack, especially when the latter was supported by one-half of the local physicans, was sufficient to prejudice the jury. The jury's verdict against me was $500 and costs and the trial judge, notwithstanding he admitted the verdict was a gross outrage, refused to set it aside. I appealed the case, but it was affirmed with damages. The judgment, damages, costs and attorney fees stand me out something more than $800. However, the State Society at its last meeting appointed a committee to aid me in the case, which collected by private subscription from the members $115. While this was duly appreciated I would have preferred it had come from the Society as a body. The State Society refused to appropriate any of its funds to aid the case. The State Board of Health could not afford aid, as it was in debt and it did not have sufficient appropriation from our liberal legislature to properly conduct its own affairs. Aside from the above assistance mentioned I have fought this quack alone and suffered the humiliation of having three out of six local physicians go on the witness stand against me. Henceforth, I propose to give quacks a wide berth, unless I can secure the co-operation of the county and state societies.

GEORGE E. DAVIS, M.D.

Bismuth Poisoning.

PHILADELPHIA, Nov. 26, 1901.

To the Editor:—I was greatly interested in the Editorial entitled "Intoxication with Bismuth," published in the issue of THE JOURNAL for November 23. I have long been aware of the fact that bismuth applied to sore surfaces may exert a toxic and even a fatal effect. Several years ago there was a patient in the Woman's Hospital here with an extensive burn of one arm, over which bismuth subnitrate had been thickly dusted. The powder had united with the secretions of the ulcerated surface and formed a thick "cast" like that of plaster of Paris. The patient developed acute stomatitis characterized by great pain, tenderness and swelling, and broad bluish lines along the edges of the teeth and the inner borders of the lips. I have no record of the case, and can only state that the patient fell into a state of profound asthenia and died from what I regarded as bismuth poisoning. The United States Dispensatory (18th Ed., p. 275) states that the insoluble preparations of bismuth "when applied in large quantities to extensive wounded surfaces are capable of yielding so much bismuth by absorption as to produce a poisoning which is characterized by acute stomatitis, with a peculiar black discoloration of the mucous membrane, usually beginning upon the borders of the teeth, but spreading over the whole mouth, followed by an intestinal catarrh, with pain and diarrhea; in severe cases, desquamative nephritis, as shown by albuminous urine and epithelial tube casts, may also occur." Although the authority for this statement is not explicitly stated, it is evidently taken from Kocher, who wrote upon the subject in 1882, and who is quoted in the paper on bismuth poisoning by Dreesmann, upon which the editorial above referred to was based. Yours truly,

FREDERICK P. HENRY, M.D.

Prescription Writing.

VERMILLION, S. D., Nov. 25, 1901.

To the Editor:—The subject of "Prescription Writing," taken up by THE JOURNAL, is undoubtedly a timely one and I would suggest that the series of articles be reprinted and published in pamphlet form so they may be more convenient for reference.

For my part, I was fortunate enough to have some knowledge of Latin before studying medicine, but I find that things will easily slip the memory and I would take great pleasure in getting these timely articles in such a form that they could have a place on my desk.

No one who has ever looked over the prescriptions filed in the drugstores will doubt the necessity of a more thorough knowledge of prescription writing, as many of the prescriptions are a sight to behold!

With thanks to THE JOURNAL for its many and helpful hints, I am, yours fraternally, THOS. CRUICKSHANK, M.D.

Proposed Union of the N. Y. Associations and Societies.

NEW YORK CITY, Nov. 30, 1901.

To the Editor:—I noticed, in the last number of THE JOURNAL, a communication stating that the Medical Society of the County of New York has expressed a desire to effect a union of the Medical Society of the State of New York with the New York State Medical Association.

I believe that nothing will give greater pleasure to the members of the New York State Medical Association than to give the heartiest help in furthering the union of the whole profession in the State of New York. Yours sincerely,

E. ELIOT HARRIS.

Married.

ARTHUR M. BUTZOW, M.D., to Miss Mary A. Arens, both of Chicago, November 27.

JOHN R. TUTTLE, M.D., to Miss Zine Beouy, both of Wheeling, Ind., November 20.

HENRY C. MANARY, M.D., to Miss Mary E. Johnson, both of Lincoln, Neb., November 21.

JAMES BOZEMAN BAIRD, M.D., to Mrs. Annie Raine Mynatt, both of Atlanta, Ga., November 21.

DONALD M. CAMMANN, M.D., to Miss Sophie E. Spencer, both of New York City, November 26.

MILFORD J. WHITESIDE, M.D., to Miss Molly Mabel Harris, both of Rochester, N. Y., November 20.

JOHN M. CHILDERS, M.D., Wattensaw, Ark., to Miss Leona James, of Little Rock, Ark., November 21.

ARTHUR E. SWEATLAND, M.D., Shepherd, Mich., to Miss Rose L. Altenberg, of Little Rock, Ark., December 4.

ARTHUR R. ELLIOTT, M.D., Chicago, to Miss Hannah Salisbury Fisk, at Milwaukee, Wis., November 21.

JAMES MCFADDIN DICK, M.D., Salisbury, Md., to Miss Louise Upshur Sudler, at Fairmount, Md., November 20.

WILLIAM PEYTON TUCKER, M.D., Washington, D.C., to Miss Katherine Norman, of St. Joseph, Mo., November 20.

DAYTON JOSEPH LONG, M.D., Piedmont, W. Va., to Miss Mabel Helen Shook, of Westernport, Md., November 27.

FREDERICK ROWLAND MALONE, M.D., Greensboro, Caroline County, Md., to Miss Mattie Hughlett Maylor, at Trappe, Talbot County, Md., November 20.

Deaths and Obituaries.

James Polk Jackson, M.D. St. Louis Medical College, 1868, and College of Physicians and Surgeons, New York, 1873, died at his home in Kansas City, Mo., November 22, aged 56. He was a member of the American Medical Association. He established a hospital for employes of the Wabash and Missouri Pacific railways at Kansas City in 1881, and was continuously in the service of these and the Kansas City, Fort Scott and Memphis roads for many years. He filled the chair of surgery in University Medical College until 1899, when he was forced to withdraw from active teaching and became professor emeritus of that branch. The trustees of the college at a meeting held November 24, adopted the following resolutions; Whereas, It has pleased almighty God in His wisdom to remove from among us our brother in the midst of an eminent career; be it Resolved, That Dr. James Polk Jackson was a man who in his professional duties was ever faithful, conscientious, striving always to impart the latest known developments of medical science and in the most impressive manner; that our friend through his kind, sympathetic, self-respecting and reverent nature endeared himself to all who were so fortunate as to come within his influence. Resolved, That Kansas City has lost a citizen of noble type, whose heart's desire and efforts were for the uplifting of the city. Resolved, That we tender to the afflicted widow of our brother and to the immediate friends our heartfelt sympathy for the loss of one who ever held home as a sacred place and that these resolutions be embodied in the archives of the institution and a copy sent to the bereaved wife, to the daily press and to the medical journals.

Patrick S. O'Reilly, M.D. Washington University, St. Louis, 1861, died November 19, at Bay St. Louis, Miss., aged 57. He was the brother of the late Dr. Thomas O'Reilly, and was for years one of the best-known practitioners in St. Louis. He was a member of the American Medical Association. He had been ill for a long time, his illness dating from a Fourth of July accident, but the immediate cause of death was apoplexy.

John Hammond Lovatt, M.D. Sydenham College, Birmingham, England, 1861, died suddenly, aged 60, in Florence, Kan., November 23, where he had resided since 1887, two years after his arrival in America. In 1879 he was appointed a surgeon in the English army, and served for five years in India, Africa and Australia. In 1885 he was appointed a surgeon of the City Hospital at St. Louis, Mo., and served two years.

John C. Swaving, M.D. University of Giessen, Germany, 1849, a native of Vianen, Holland, but for 35 years a resident and esteemed practitioner of Pottsville, Pa., died at his home in that place, November 25, after a long illness, aged 79. At the outbreak of the Civil war he entered the Union service and served throughout the war. His service included a month's imprisonment in Libby Prison, Richmond, in 1865.

Elijah T. Collins, M.D. Medical College of Ohio, Cincinnati, 1840, died at his home in South Charleston, Ohio, October 23, aged 84. He was a native of Clark County and had practiced medicine for more than half a century. He was a member of the county and state medical societies. He leaves an estate valued at more than $100,000.

Peter Faling, M.D. Albany (N. Y.) Medical College, 1854 one of the best-known physicians in western New York, and a member of the New York State and Niagara County medical societies, was found dead in his office at his home in Gasport, November 23, aged 68. Death was probably due to an overdose of morphin.

Philo H. Banks, M.D. Jefferson Medical College, Philadelphia, died November 23 in a hospital at New Orleans, La., from typhoid fever contracted while in the employ of the British government's transport service between New Orleans and South Africa.

Thomas Langley Barnes, M.D. Missouri Medical College, St. Louis, 1851, a native of North Carolina, raised in Carthage, Ill., a veteran of the Blackhawk war, and a resident of California since 1854, died at his home in Ukiah, Cal., November 15, aged about 90.

Charles H. Hamilton, M.D. Bellevue Hospital Medical College, New York, 1869, president of the Board of Health of Newton, N. J., and town physician, died at Roosevelt Hospital, New York, November 19, two days after an operation for appendicitis, aged 54.

John J. Fanset, M.D. University of Minnesota, 1896, who immediately after graduation located in Milbank, S. Dak., died at his home in that city, November 16, from pulmonary tuberculosis, after an illness of eighteen months, aged 29.

Jefferson C. Cawood, M.D. Jefferson Medical College, Philadelphia, 1859, one of the best-known physicians of Tennessee, died suddenly at his home in Knoxville, Tenn., November 28, while going to dinner with a party of friends, aged 71.

Ebenezer S. Johnson, M.D. a prominent physician of Maine, died at his home in Farmington, November 21, from

heart failure following pneumonia, after a brief illness, aged 61. He had practiced in Farmington for 35 years.

Arthur W. Downing, M.D. Jefferson Medical College, Philadelphia, a prominent physician and citizen of Northampton County, Va., died at his home near Bridgetown, November 21, after a short illness, aged 86.

Richard E. Edes, M.D., late assistant surgeon U. S. Navy, A. B. Johns Hopkins University, Baltimore, and M. D. Harvard University Medical School, 1895, died at Jamaica Plain, Boston, Mass., November 25, aged 32.

J. W. F. Best, M.D. University of Maryland, Baltimore, 1858, an old practitioner of Anne Arundel County, Md., and a surgeon in the Confederate army, died at his home in South River, Md., November 16.

Thomas F. McLean, M.D. Queen's University and Royal College of Physicians and Surgeons, Kingston, Ontario, 1863, a practicing physician of Conant, Fla., died suddenly at Montreal, November 17.

Charles F. Paine, M.D. University of Pennsylvania, Philadelphia, 1866, an old and respected resident of Troy, Pa., died November 14, from paralysis while on his way home from Philadelphia, aged 53.

Robert F. Bullen, M.D. Rush Medical College, Chicago, who, soon after his graduation found business life more attractive than the practice of medicine, died November 14, from heart disease, aged 54.

Joseph C. Scarborough, M.D. University of Michigan, Ann Arbor, 1898, died from pneumonia at his home in Prescott, Ariz., November 22, after an illness of three days, aged 29.

William George Wright, M.D. College of Physicans and Surgeons, N. Y., 1876, of Brooklyn, N. Y., was found asphyxiated from illuminating gas in his room, November 22.

William H. Snyder, M.D. Albany (N. Y.) Medical College, 1839, one of the oldest practitioners in New York State, died November 19, at the home of his son in Troy, aged 87.

William T. Witherington, M.D. Vanderbilt University, Nashville, Tenn., 1879, a practicing physician of Paragould, Tenn., died at a hospital in Memphis, November 18.

William R. Putney, M.D. University of Pennsylvania, Philadelphia, 1858, of New Canton, Buckingham County, Va., died suddenly November 21, at an advanced age.

Samuel I. Fox, M.,D. University of Nashville, Tenn., 1860, died recently at his home in Wills, Texas. He was a native of Kentucky, and formerly resided at Danville.

Edward Jones, M.D. Barnes Medical College, St. Louis, 1901, who had been in failing health for some time, died suddenly at Scottsdale, Texas, November 4.

Louis B. Pacetti, M.D. University of Maryland, Baltimore, 1873, died suddenly of Bright's disease, in Baltimore, November 20, aged 51.

Book Notices.

DISCIPLES OF ÆSCULAPIUS. By Sir Benjamin Ward Richardson, M.D., F.R.S. With a Life of the Author by His Daughter, Mrs. George Martin. In Two Volumes. Vols. I and II. With Portraits and Illustrations. Cloth. Pp. 424. Price, $8.00 net. New York: E. P. Dutton & Co. 1901.

This biographical work will be welcomed by all who love to learn of the old masters in medicine and surgery, and of the work they did. It is written by one who had the happy faculty of telling what he had to tell in a pleasant manner whether by voice or by pen. As a preface or introduction, is given a brief biographical sketch of the author, Sir Benjamin Ward Richardson, by his daughter. He was born in 1828 and entered Anderson's College, Glasgow, as a student in 1845, having among his fellow students one who afterwards gained renown as an African explorer, Dr. David Livingstone. During these student days he had the privilege of being one of the first in his country to witness the use of an anesthetic in a surgical operation. In 1854, after having practiced in various parts of England for short periods under different men, he moved to London. There he built up a large practice. "Sometimes I would see as many as 200 patients a day," he writes. He was one of the leaders among medical men in the cause of temperance and from his persistent labors in its behalf made not a few enemies. He was a great advocate of preventive medicine and with this in view established the *Sanitary Review and Journal of Public Health*, and later the *Social Science Review*. He was knighted in 1893 and died in 1897.

The two volumes contain the "Lives of 44 of the world's most famous physicians and surgeons; those who laid the foundation of medicine. Here is the list: William Harvey; John Keats, an Æsculapian poet; William Gilbert, Thomas Wakley, Benjamin Rush, Andreas Vesalius, Herman Boerhaave, Antony Van Leeuwenhoek, William Cheselden, Antonio Scarpa, Richard Wiseman, Ambrose Paré, John Mayow, John Arbuthnott, John Snow, John Brown, Richard Mead, John Baptist Morgagni, René Théophile Hyacinthe Laennec, William Hunter, Joseph Priestley, John Freind, Edward Jenner, Sir Francis Bacon as a Master of Physic, Alexander Monroe, William Cullen, Joseph Black, Benjamin Bell, John Hunter, William Hewson, Matthew Bailie, John Moore, Thomas Willis, Sir Kenelme Digby, Sir Thomas Browne, Thomas Sydenham, Erasmus Darwin, John Locke, Robert Boyle, Marcellus Malpighi, John Howard, William Alexander Greenhill, John Abernethy, and Thomas Young.

Some of these can hardly be classed among physicians and surgeons. While he studied medicine and was looking forward to a medical career until a little while before he died, John Keats can hardly be classed as a "Disciple of Æsculapius." Leeuwenhoek was not a physician, being noted mostly for the making of lenses and microscopes. His discovery of the capillary circulation, however, entitles him to a place among the "Disciples;" and so with several others who were not physicians, such as Joseph Priestley, etc.

Our Benjamin Rush is called the "American Sydenham," "a great as well as a conspicuous character, worthy of his time, and one of the elect of history." The author recognizes him as being a man of many-sided greatness, of high moral character, a true patriot, an orator, a philanthropist, reformer, molder of thought and a great physician. The views expressed of Rush are such as to please the most ardent admirer of the great patriot physician and show that the author fully appreciated the man and his work. The sketch of the founder of *The Lancet* is a notable tribute to a great medical reformer. During the first few years of Richardson's life in London, Wakley and he were great friends, but later with the former's connection with the *Medical Times and Gazette* there was not the same cordial feeling as before, although the two were still friends. The analysis of "Religio Medici" in the biography of its author, the erratic but versatile genius, Sir Thomas Browne, should be read by all who are interested in that peculiar book.

These biographies or lives are, as a rule, complete and contain all that is known of the subjects. Some are but brief sketches, but all contain analyses of their work and its influence on medical knowledge and medical thought. As viewed by Sir Benjamin Ward Richardson they will be found to be not only intensely interesting, but instructive also, as with two or three exceptions each of these biographies calls attention to some fact in the history of the development of our science. In fact, the history of the lives of a few dozen men, such as those in this book, is a history of medicine up to 50 to 75 years ago, Mundinus, Versalius, Harvey, and Morgagni for instance. What a rich harvest has resulted from the seed which their labors produced! The two volumes make a noble monument to one of the noblest among the disciples of Æsculapius of the nineteenth century.

AN AMERICAN TEXT-BOOK OF PATHOLOGY, for the Use of Students and Practitioners of Medicine and Surgery. Edited by Ludvig Hektoen, M.D., Professor of Pathology in Rush Medical College in Affiliation with the University of Chicago; and David Riesman, M.D., Professor of Clinical Medicine, Philadelphia Polyclinic; Instructor in Clinical Medicine, University of Pennsylvania. With 443 Illustrations, 66 of them in Color. Pages, 1245. Price, $7.50. Philadelphia and London: W. B. Saunders & Company, 1901.

The Chairman of the Section on Pathology and Bacteriology of the American Medical Association in his address at St. Paul, which address appeared in our issue of November 30,

used the following words: "The possibilities for careers in pathology and bacteriology in this country are rapidly equaling in opportunity and reward those of older countries and of other sciences in this country." The present volume is an evidence of the truth of this statement, for it shows that not a few Americans have not only chosen for themselves these careers but that they are utilizing the opportunites offered and are already making for themselves the reputation that is no small part of the reward that comes to laborers in science. Many of the collaborators are men who are devoting their entire time to the teaching of pathology and to investigations in this field and whose work is already well known. We may truly call this book American. For while, as a matter of course, a large part of the facts here recorded are obtained from non-American sources, chiefly German, it is a pleasure to note the numerous references to the original work of Americans. No book with which we are acquainted gives such a good idea of what has been done in America along pathological and bacteriological lines as this one. Heretofore a cause of no little annoyance to the honest worker has been the indifference of the continental writers to the American product, which has too often been entirely unnoticed or damned by the terse comment: "nichts neues." There is also a feeling of interest as one looks at the illustrations and finds that they are for the most part original—again an American flavor—and not the time-honored reprints whose features are so familiar.

A rather strange subdivision is that of Diseases of the Breast. We do not question Dr. Warren's ability to handle this topic or the way in which he has treated it, but where the assignment of topics is by systems rather than by separate organs it is a little out of place to make a separate chapter of twelve pages on Diseases of the Breast.

The book would be much handier if in two volumes. The one volume which with its index and advertisements contains nearly 1300 pages is too bulky.

We do not hesitate to pronounce this one of the best, if not the best, text-books on pathology and our wish would be that as it goes through succeeding editions the number of collaborators might grow smaller and that more and more of the work might be done by the capable editors or at least by a smaller corps of assistants, giving to the book greater unity and uniformity of excellence.

PEDIATRICS. The Hygienic and Medical Treatment of Children. By Thomas Morgan Rotch, M.D., Professor of the Diseases of Children, Harvard University. Third Edition, Rearranged and Rewritten. Illustrated by Numerous Engravings in the Text and by Colored Plates. Cloth. Pp. 1021. Price, $6.00. Philadelphia and London: J. B. Lippincott Co. 1901.

There is no branch of the practice of medicine of more importance than that which pertains to the management of children and the diseases to which they are subject. The physician who makes himself master of pediatrics will have a knowledge that will reach the heart, and assist him in obtaining the confidence of the most important member of the average family—the mother—and thus be the greatest aid in successfully establishing himself in the opinions of those who can make or mar his success. This is realized by every practitioner after a few years' practice—but often too late. The work before us is one that is a pleasure to recommend to those who desire a book to aid them in obtaining this knowledge. It is scientific, it is practical and will be found as helpful to the "busy practitioner" as to the student.

While the title page indicates that this is a third edition, yet it is practically a new book. The order in which the subjects were treated in former editions has been changed and much of the matter practically re-written, not a little being entirely new. Pediatrics has kept pace with the rapid advances made by other branches of the medical sciences, and this book represents this advanced knowledge. It is much more thoroughly illustrated than were the former editions, the illustrations not only being excellent ones but of remarkably practical value. Many are in colors. There is no padding and, while concisely written, clearness of expression has not been sacrificed to brevity.

Much attention is given to the anatomy and physiology of early life in the first division, which is devoted to normal development. The author's method of dealing with the subject of infant feeding—the most practical and important subject connected with pediatrics—is deserving of high commendation. The various tables for the preparation of foods, modification, sterilization, etc., of milk will be found most helpful. The paragraphs on Artificial Foods should be read by every physician in general practice, especially those who are in the habit of recommending the ready-made foods. The consideration of the diagnosis, the pathology and the treatment of the various diseases of children are in accordance and in harmony with the latest scientific methods and practice. The book is worthy of the highest commendation as a practical and scientific work in the management of children in health and disease.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other Than Drug-giving, Useful in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Volume I. Electrotherapy. By George W. Jacoby, M.D., Consulting Neurologist to the German Hospital, New York City. In two Books. Book I, Electrophysics—Apparatus Required for the Therapeutic and Diagnostic Use of Electricity. With 163 Illustrations. Cloth. Pp. 242. Book II, Diagnosis; Therapeutics. Illustrated. Cloth. Pp. 323. Eleven volumes. Price, $22 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This system treats of the methods to be employed in the treatment of the sick, other than by the administration of drugs. The first two volumes by Dr. George W. Jacoby, of New York, are devoted to electrotherapy. The first volume enters into the discussion of electrophysics and apparatus. The value of this volume is very much enhanced by illustrations, which serve to aid the student and the general practitioner in grasping the mechanism of the different kind of batteries, etc., although there are quite a number of useless illustrations. The second volume is devoted more especially to electrotherapeutics and contains several well-written articles on electrodiagnosis and on the treatment of many diseases as well as on the use of the current in cautery work. Skiagraphy and the Roentgen ray receive the proper attention in the first volume. There has probably never before been published so practical a work upon this subject of electricity, which at the same time is concise and complete. Dr. Jacoby deserves credit for the work contained in the first two volumes of this series.

ANATOMY, Descriptive and Surgical. By Henry Gray, F.R.S., Fellow of the Royal College of Surgeons. Edited by T. Pickering Pick, F.R.C.S., Consulting Surgeon to St. George's Hospital; and Robert Howden, M.A., M.D., C.M., Professor of Anatomy in the University of Durham. A Revised American, from the Fifteenth English Edition. With 780 Illustrations, Many of Which Are New. Cloth. Pp. 1257. Price, $5.50 net. Philadelphia and New York: Lea Brothers & Co. 1901.

This new century edition of "Gray's Anatomy" looks almost like a different book when compared with the older ones. It has been thoroughly revised, and about 60 new illustrations added, replacing some of the old wood-cuts. The newer processes of picture-making have enabled the publishers to produce differences in shading to represent curves, cavities and portions more remote, which art is an excellent aid in descriptive anatomy.

A MANUAL OF THE PRACTICE OF MEDICINE. By Frederick Taylor, M.D., F.R.C.P., Senior Physician to, and Lecturer on Medicine at Guy's Hospital. Cloth. Pp. 1028. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This book has not been received as well in this country as it deserves, but the fact that six editions have been called for shows that it has been quite popular in England. There is no attempt to cover the subjects treated in an exhaustive manner, but rather to give a short yet practical account of all the medical diseases encountered by the general practitioner. Several of the chapters have been rewritten for this editon and much new matter added, making the work accord with the present-day knowledge.

A COMPEND OF HUMAN PHYSIOLOGY Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College. Tenth Edition, Revised and Enlarged. With Illustrations and a Table of Physiologic Constants. Cloth. Pp. 270. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1900.

The high number of editions which this compend has gone through may be regarded as an index of the amount of information it contains. In this edition the author has revised various portions of the text and added new paragraphs.

Miscellany.

San Francisco Plague Report.

CASE 48.—Chinese, male, 37 years of age, residing at 809 Stockton St., was seen, October 19, by Dr. White, M.-H. S., City Bacteriologist Dr. Kellog, Dr. Ryfkogel and Dr. Evans. The man gave a history of being ill one week with prostration and a swelling, which was very evident on the left side of his neck. Temperature 102.5 F. at time of examination. A clinical diagnosis of plague was concurred in by the physicians present. Blood secured from an ear puncture showed the presence of numerous bipolar bacilli. The man died shortly after and an autopsy revealed general plague septicemia with enlargement of the glands on the left side of the neck; the surrounding edema was extensive, extending even to the larynx and glottis. Intestines were almost completely covered with the omentum, which was poor in fat. Appendix was normal; no fluid in cavity. Liver was visible about 1½ inches below costal border. Diaphragm attachments were on left fifth interspace; right, same. Lungs nearly met in median line; pericardial sac contained about 25 c.c. of slightly turbid fluid. Both lungs adherent at apex, no increase of fluid in pleuræ. Surface of heart was covered with fat, veins moderately dilated; the branch separating the ventricle showed numerous small hemorrhages. The right ventricle and auricle contained fluid blood. Walls of left ventricle were thicker than normal, of a dark red color and very firm. Endocardium of left heart was smooth and transparent and no thickening. A few small plaques were in aorta just above valve and near coronary opening, but they were too small to be of any consequence. Valves of heart were normal. The left lung was large and firm; pitted on pressure; crepitated freely throughout; surface was pinkish-brown color. Cut surface was poor in blood; pressure caused slight amount of blood, some serum and much air to exude. Right lung was same as left. Capsule of spleen was smooth, of a bluish slate color, showing irregular areas of capsular thickening and numerous sub-capsular nodules; organ enlarged nearly double, very soft. Cut surface was brownish-red in color, rich in blood, pulp bulging. Liver about normal in size; lower border rounded, surface smooth and glistening, color a dark-red interspersed with irregular small areas of light yellow; organ firm in consistency, cut easily without grating, cut surface rich in blood, normal except for some congestion. Fibrous capsule of left kidney stripped easily, exposing a light-red surface showing a few stellate veins; cut surface rich in blood; contrast between cortex and pyramids well preserved. Intestines were not distended, vessels of omentum dilated, mesenteric glands not enlarged. Peritoneum was normal. Stomach was normal in size; vessels of outer surface dilated. Mucosa was very much injected and hemorrhagic, in places covered with a mixture of mucus and blood. Trachea and larynx were removed en masse, also esophagus; trachea and larynx were very edematous; the larynx showed several hemorrhagic areas. Smears from the neck glands and spleen showed the plague bacillus in large numbers. Animals inoculated with emulsions of the glands and spleen died of typical plague infection.

CASE 49.—Chin Feu, Chinese, male, seen October 22 by Drs. White and Curry, M.-H. S., and City Bacteriologist Dr. Kellog, at the old Palace Hotel on Jackson Street (Chinatown). He had some trouble of the left hip-joint resembling tubercular disease and also some dulness at the apices of both lungs. He had a temperature of 101 F. and a very painful bubo in the left femoral region; pulse 120 and compressible. A clinical diagnosis of plague was made and the case seen several times afterwards. On one of these occasions, October 23, Dr. Ryfkogel made a blood count, finding a leucocytosis of 17,000. The highest temperature range in this case observed was 102.5 F.; the temperature gradually dropped, the man's health and strength improved, and the bubo gradually disappeared by resolution without signs of suppuration and he was discharged from quarantine on November 4.

CASE 50.—Fong Shing, Chinese, male, aged 35 years, died at Waverly Place and Clay Street, Oct. 30, 1901. Autopsy revealed body of a well-developed, well-nourished Chinese male. Ocular and buccal mucosa injected; cervical, epitrochlear, popliteal, left inguino-femoral and axillary glands not enlarged. The glands of the right femoral region were very much enlarged and the swelling was covered with a black tarry ointment. Over the lower chest and abdomen was a discrete, impalpable, fairly numerous petechial eruption varying in size from a pin-point to a pin-head, the larger being less distinct than the smaller and apparently older and constituting about 40 per cent. of the entire eruption. Sections of some of these petechiæ showed sharply-defined hemorrhages without surrounding edema or induration or dermal elevation or insect puncture of the skin. The heart was 11 cm. from base to apex and 9.5 cm. transversely. Epicardium of right posterior surface showed 15 to 20 small hemorrhages. Left ventricle distended by firm dark blood-clot. Two old nodules were on free border of mitral valve; heart muscle showed a distinct myositis; heart otherwise normal. Left lung was somewhat adherent to chest wall; apex showed an area about 2 cm. in diameter of caseous tubercle. Otherwise the lung crepitated throughout and contained no cavities, but was edematous. The right lung was tubercular in upper lobe and showed in one place a soft caseous tubercle about 3 cm. in diameter. Elsewhere the lung crepitated and showed no tubercular infection. Intestines were injected. The lower 1½ ft. of the ileum showed enlarged solitary follicles and a hemorrhagic mucosa; Peyer's patches were not involved. The spleen measured 16x7x3.25 cm. Trabeculæ and Malpighian bodies were distinct; pulp not bulging; consistency very friable. Stomach contained about 250 c.c. of dark yellowish-brown fluid and some solid vegetable matter. Liver measured 7x10x24 cm. Surface was smooth; there were four sub-capsular yellowish areas 3 to 5 cm. in diameter and 1 cm. thick, which on section were shown to be necrotic. Section of the liver showed some cloudy swelling. No abscesses or nodules. Gall-bladder normal. Right kidney was surrounded anteriorly and posteriorly by a well marked hemorrhagico-gelatinous edema, most marked posteriorly. The kidney measured 9x5x3.5 cm. Capsule was slightly adherent but stripped without loss of cortical substance; cortex at thinnest part measured 0.5 cm.; vessels injected, pyramids dark, and vessels stood out prominently. The pelvis of the kidney had a few surface cysts, no hemorrhages, otherwise same as right. Both suprarenals were normal. Incision over the right inguinal and femoral regions showed a hemorrhagic and gelatinous peri-glandular infiltration, with enlargement of the lymph glands, which was most marked in the femoral region. The largest gland measured 3x1 cm. The cortex of this gland showed a few distinct hemorrhages. The sheath of the femoral vessels and the intermuscular fascia were hemorrhagic in numerous small areas. The right iliac and lumbar glands were distinctly enlarged and decidedly hemorrhagic. The abdominal hemorrhagic condition extended up about the diaphragm and over the spinal column. The bladder mucosa was injected about the neck, the urethral mucosa showed a small amount of some matter resembling an admixture of pus and semen. The fossa navicularis had four small ulcers. The epididymis and the testicles on both sides seemed free of any venereal disease. Stained smears from the bubo and the blood showed numerous characteristic bipolar bacilli. Anatomic diagnosis: bubo-septicemic plague, tuberculosis and gonorrhea. Animals inoculated with glandular tissue from the bubo died of typical plague infection.

CASE 51.—Mar Hea, Chinese, male, aged 35 years, barber by occupation. Died Nov. 4, 1901, at 22½ Waverly Place. The autopsy revealed the body of a Chinese male, of middle age. Pupils moderately contracted, rigor mortis slight. Two or three spots simulating subcutaneous hemorrhages about the neck and one on the anterior superior spine of the ileum, left (probably counter-irritation marks). Fat of abdominal wall was scanty; muscles dry. Omentum covered intestines, very poor in fat. Appendix was normal. No fluid was in abdominal cavity. Heart muscle was very soft, cut easily, showed

beginning fatty degeneration. Aorta contained several small plaques. Valves were normal. Left lung was rather small, of a mottled red and dark appearance, crepitated throughout, but was more resistant than normal. Pleura had not lost its luster, cut surface of lung moderately rich in blood, pressure caused air, blood and serum to exude. Right lung was same as left, except for a small tubercular scar in upper lobe and one small broken-down tubercle. Spleen was very friable; enlarged about one-third, surface of a bluish-red color and showed indistinct subcapsular nodules. Capsule very tense, organ very soft and cut easily, and presented marked appearance of septic infection. Left kidney capsule stripped easily, exposing a smooth reddish-yellow surface in which the venæ stellatæ were quite prominent. Cut surface was rich in blood; cortex normal in breadth. Contrast between cortex and pyramids had disappeared. Right kidney was same as left. Liver was rather small, firm in consistency; capsule glistening; cut easily and cut surface rich in blood; it showed areas of indistinct structural appearance, beginning degeneration. The intestines were injected. There was no enlargement of the lymph nodes in any region. Stained smears from the spleen showed myriads of pest bacilli. Anatomic diagnosis: Fatty degeneration of the myocardium; acute nephritis; small tubercle of left lung; acute septic spleen due to plague infection. Animals inoculated from the spleen died promptly of typical plague infection.

Burlesque Number of a Medical Journal.—The burlesque number issued by the *Muenchner Med. Wochenschrift* in honor of the anniversary of the Munich Medical Association, founded sixty-eight years ago, is just received. The make-up of the journal is the same as usual, except that the word "without" is inserted before the list of distinguished names which always adorns its cover as having promised their co-operation, and "entirely unsuited for" before the sub-head, "the General Practitioner's Organ." The advertisements include one for a resident physician for a watering place; "sole duties to say good morning to the resorters individually and sign the reports issued by the managers." A woman doctor advertises for a young colleague as assistant in cases requiring muscular strength, especially obstetric cases. The news column mentions the new titles of "Vaginalrath" and "Geheimerintestinalrath," similar to the present titles of "Sanitätsrath," etc. It is also stated that one of the Nobel prizes has been bestowed upon Professor Winer, of Giessen, for his discovery that the sensation of hunger is due to a rhythmic vibration of the stomach walls, and that these vibrations can be arrested by paralyzing the walls by the local application of his ventriculograph. This abolishes the sensation of hunger, and the organism, by a sort of auto-suggestion, feels itself satisfied and ready for physical exertion. Stations are to be established in the poorer quarters for free treatment with the ventriculograph, and it is expected to solve the social problem. A letter from an old physician, a thoroughly trained classical scholar, expresses approval of the new official regulations admitting to the medical course without a classical training. He candidly admits that the hours spent over the classics are wasted. Of what possible use to a general practitioner, he asks, is a knowledge of Greek and Latin, history or higher mathematics. He can learn by rote a few terms to impress patients with, and that is sufficient. The classics contain nothing of especial interest for the physician; Æsculapius and Galen are not used as text-books. He never finds equal-sided triangles in the human body; the extraction of square and cube roots he leaves to the dentist. Modern languages might occasionally be useful to a physician trying to practise in a large city, but even then he has to depend on the interpreters at the hotels to steer the patients to his office. The student should enter upon the medical course with his head entirely empty, allowing room for the accumulatiaon of medical lore, instead of its being crowded with useless rubbish as according to the present methods. The "practical year" now exacted of every student in Germany, should precede instead of following the medical course. The student would then be able to ascertain exactly what knowledge he would need in his practice and thus be able to study only those things which will be of use to him.

Connection Between General Paralysis and Syphilis.—Under the heading "Nosologic Proof of the Causal Relations Between Syphilis and Progressive Paralysis," Muratoff reports in *Russky Archiv Patalogie*, xii, 1, a case in which the incipient symptoms of progressive paralysis appeared simultaneously with tertiary syphilitic manifestations in the spinal cord, cortex and ventricles. Parasyphilitic symptoms were also observed.

Osteopathy Treatment.—What is the kernel of therapeutic truth in osteopathy? Simply that the more or less judicious movements of diseased parts cure such parts. This fact is demonstrated by the position of the Ling system in Swedish medicine, by the cures wrought among us by the imported masseurs and their imitative rubbers, and by the great popularity of osteopathy among the laity. What is the harm of it? The harm of it is its indiscriminate application as a "cure-all"—a system of cure—by its enthusiastic but poorly educated leaders. What is the profession doing to reclaim this lost territory to its own? With us the little done is left to the untrained or the imported. Nothing is done to popularize the method, and this remedy of undoubted therapeutic value is wholly neglected in our smaller communities. The time is ripe for a well-officered and well-equipped school of massage and physical culture.—N. W. *Lancet*.

Antisepsis versus Asepsis.—Lucas-Championnière, president of the French Association of Surgery, in his address at the meeting in October, deplored the too general neglect of antisepsis for the less reliable asepsis. His conclusions are the following: 1. Moderation in the use of antiseptics in the surgery of the abdominal viscera; in the intestine, stomach and kidney, antiseptics are less useful and more injurious than in other operations. 2. Antiseptics should be used in all laparotomies where there is the least apparent presence of sepsis. 3. For all operations outside of the abdomen, antiseptic surgery is the only certain procedure. 4. In hospital work, antiseptic surgery remains the only method which gives sufficient guarantee of definite security in all operations. He adds: "As for myself, the use of carbolic acid, hydrogen peroxid, and in a small measure, iodoform appear to answer the chemical desiderata."

International Congress of Life Insurance Examiners at Amsterdam.—Among the communications presented we note that Weill-Mantou would postpone every candidate for life insurance with an existing focus of tenderness in the region of the appendix or a previous history of the kind, who has not been operated. An operation removes the obstacle to acceptance, after an interval varying according as the operation was performed "hot" or "cold." Burger would exclude all cases of purulent chronic otitis of the middle ear when complicated by inflammation of the attic or antrum, when it is tuberculous or cholesteatomatous or accompanied by a lesion of the bone, facial paralysis, vertigo or cephalalgia. All other varieties can be accepted as extra hazardous risks. Acceptance should be postponed until after recovery from acute otitis. Bilateral deafness, severe auricular vertigo and also permanent perforation of the tympanum require an increased rate. Crocq proclaimed that the absolute extinction of the knee-jerk should exclude the candidate, and its partial abolition should entail more careful scrutiny of the other functions of the nervous system. If exaggerated, the candidate should be refused if evidences of an organic lesion can be discovered. If merely a functional neurosis exists, the prognosis varies with the individual case. Insurance should be refused in case of the abolition or pronounced weakening of the pupil reflexes, Argyll-Robertson's sign and inequality of the pupil, Babinsky's sign and a tendency to clonic contraction on the part of the tendons. Moritz and Poels would reject all applicants in the early stage of arteriosclerosis. The insurance should be limited to a certain age in case of established arteriosclerosis, and the candidate refused if the heart shows signs of weakness. In case of heart disease, long survival is possible in case of perfect compensation that has lasted for five years at least, with the heart affection latent during this period. Compensation is more liable to be permanent in case of insufficiency than in case of

stenosis. The prognosis of aortic lesions is more favorable than of mitral and pulmonary and of lesions of the pericardium than of the endocardium and pericardium. After 50 years of age the candidate should be rejected. Stokvis excludes persons with a renal affection, but does not consider extrarenal albuminuria a contraindication. He noted an extrarenal cause in 60 per cent. of 21 candidates exhibiting albuminuria. Statistics show that the mortality from affections of the bladder or prostate is only 1.5 per cent. of the general mortality, and six-sevenths of these deaths occur after 60. In determining the existence of a renal lesion, permanent albuminuria is less significant than the concomitant symptoms, hypertrophy or dilatation of the heart, polyuria, pollakiuria, etc. In functional albuminuria of cardiac origin, the condition of the heart is the principal element in the decision. Periodical functional albuminuria is no contraindication to acceptance. Siredey definitely rejects all diabetics under 35. After this age if the general appearance is good, all the organs sound, with the apices normal, and the candidate does not live in contact with consumptives, he can be accepted with an increased premium. In case of nervous diabetes, resulting from emotions, trauma, over-exertion, excesses, the age and general appearance are less reliable for the prognosis. Candidates of this category should be postponed for six months and not accepted unless a later examination is more favorable.

Should Students in the Upper Grades Be Enlightened in Regard to the Dangers of Venereal Diseases?—This subject has been under discussion in the newly-organized French Society of Moral and Sanitary Prophylaxis. Fournier, in an article in the *Gaz. Hebd.*, No. 20, strongly advocates the necessity of special instruction in this line. The age between 16 and 19 affords a large percentage of all cases of venereal diseases, and youth should be enlightened in regard to their dangers. This instruction could be imparted without offense to morality by one of the teachers or by a physician, and all the scholars over 16 in educational institutions should be thus enlightened.

Societies.

COMING MEETINGS.

Western Surgical and Gynecological Association, Chicago, Dec. 18-19, 1901.

Harrisburg (Pa.) Academy of Medicine.—The sixth anniversary of the Academy was held, November 22. The orator of the evening was Dr. William Osler, Johns Hopkins University, Baltimore, who spoke on "Pulmonary Tuberculosis."

Tri-County Medical Society of Montery, Santa Cruz and San Benito Counties (Cal.).—A meeting of physicians was held at Salinas, November 20, for the purpose of forming a tri-county organization. Dr. Edward C. Thomas, Salinas, was elected temporary chairman, and Dr. Pope, Watsonville, temporary secretary.

Medical Association of Hawaii.—The meeting of this Association was held at Honolulu, November 4, when the following officers were re-elected: Dr. W. E. Taylor, president; Dr. H. C. Sloggett, vice-president; Dr. A. Gorgon Hodgins, secretary and treasurer, and Drs. Robert P. Meyers and Charles B. Cooper, executive committee.

Petersburg (Va.) Medical Faculty.—The annual meeting and banquet of this organization was held November 22. Dr. Daniel W. Lassiter was elected president; Dr. Frank W. Hains, first vice-president; Dr. William Shippen, second vice-president; Dr. Robert D. McIlwaine, corresponding secretary, and Dr. Joseph D. Osborne, recording secretary.

Mahaska County (Iowa) Medical Society.—The organization of this Society was perfected at Oskaloosa, November 20, by the adoption of a constitution and by-laws, and the election of the following officers: David A. Hoffman, president; Dr. Joseph T. Coveny, vice-president; Dr. Lewis A. Rodgers, secretary, and Dr. Samuel W. Clark, treasurer, all of Oskaloosa.

Inter-Urban (West Superior, Wis., and Duluth, Minn.) Medical Association.—The annual banquet and meeting of this body was held at West Superior, Wis., November 20. Dr. William E. Ground, West Superior, was elected president; Dr. Alfred E. Walker, Duluth, vice-president; Dr. Patrick G. McGill, West Superior, secretary and treasurer, and Dr. George H. Conklin, West Superior, censor.

Middle Tennessee Medical Society.—The fifteenth semi-annual convention of this Society was held in Fayetteville, November 21 and 22. Dr. George W. Moody, Shelbyville, was elected president; Dr. Leonidas L. Sheddan, Williamsport, vice-president, and Dr. Frank B. Reager, Shelbyville, secretary and treasurer. A proposed amendment to the constitution that the Society be made a branch of the Tennessee Medical Association was postponed. The next meeting will be held in Lewisburg.

Western Surgical and Gynecological Association.—The twenty-first annual meeting of this Association will be held at the Great Northern Hotel, Chicago, on Wednesday and Thursday, December 18 and 19, 1901. The following papers will be presented:

An Old Shoulder Luxation, with Report of a Case; Illustrated. J. Rudis-Jicinsky, Cedar Rapids, Iowa.

The Operative Relief of Impaired Function of the Elbow-Joint Due to Epiphyseal Displacement. G. G. Cottam, Rock Rapids, Iowa.

Complete Dislocation of the Astragalus, with Presentation of a Case. Wm. Jepson, Sioux City, Iowa.

Some Internal Injuries of the Knee-Joint. M. L. Harris, Chicago, Ill.

Treatment of Dislocation of Clavicle Through Open Wound. J. E. Moore, Minneapolis, Minn.

Etiological Factors in Production of Tumors. Geo. Halley, Kansas City, Mo.

A Consideration of the Different Surgical Procedures in the Removal of the Fibro-myoma of the Uterus. Joseph Eastman, Indianapolis, Ind.

Myomectomy: Its Place in the Treatment of Fibro-myoma of the Uterus. O. Beverly Campbell, Chicago, Ill.

Management of Fibro-myoma of the Uterus Complicated with Pregnancy. Miles F. Porter, Ft. Wayne, Ind.

The Present Status of the Electrical Treatment of Fibro-myoma of the Uterus. Franklin H. Martin, Chicago, Ill.

Two Cases of Cysts of the Broad Ligament Complicated with Myxoma. Edw. Hornibrook, Cherokee, Iowa.

Diffuse Sarcoma of the Uterus. D. S. Fairchild, Clinton, Iowa.

The Misleading Significance of Ovarian Pain. C. Lester Hall, Kansas City, Mo.

The Use of the Gall-Bladder as a Suspensory Ligament for a Prolapsed Liver. A. F. Jonas, Omaha, Neb.

Heart Suture. B. Merrill Ricketts, Cincinnati, Ohio.

A Simple Method of Extension in Fracture of the Metacarpal Bones, and Oblique Fracture, Simple or Compound, of the Forearm. W. W. Grant, Denver, Colo.

Some Observations Made in Europe. J. P. Lord, Omaha, Neb.

SYMPOSIUM ON PROSTATECTOMY.

(*a*) A General Review of the Subject, with Special Reference to Total Extirpation of the Gland Through a Median Incision in the Perineum. Alex. Hugh Ferguson, Chicago, Ill.

(*b*) Symptoms, Signs, Diagnosis, Prognosis and Palliative Treatment: (*a*) Massage; (*b*) Aspiration; (*c*) Catheterization; (*d*) Dilatation, and (*e*) Cystotomy. Lewis Schooler, Des Moines, Iowa.

(*c*) The Etiology and Pathology of Prostatic Hypertrophy and Suprapubic Drainage as a Method of Treatment. A. C. Bernays, St. Louis, Mo.

(*d*) Suprapubic Prostatectomy. C. H. Mayo, Rochester, Minn.

(*e*) The Indications and Limitations of the Bottini Operation. Louis E. Schmidt, Chicago, Ill.

The Operation of Selection in Retroversion of the Uterus. J. Clarence Webster, Chicago, Ill.

Hemostasis of the Broad Ligament. Henry P. Newman, Chicago, Ill.

Septicemia and Its Treatment. J. W. Macdonald, Minneapolis, Minn.

How Shall We Treat Sepsis Following Labor and Abortion? W. O. Henry, Omaha, Neb.

Non-malignant Neoplasms of the Larynx, with Report of Cases. J. B. Murphy, Chicago, Ill.

Stricture of the Esophagus. B. B. Davis, Omaha, Neb.

Intestinal Obstruction from Meckel's Diverticulum, with Report of a Case. A. E. Halstead, Chicago, Ill.

Personal Experience with Contused, Gunshot and Stab Wounds of the Abdomen. J. E. Summers, Jr., Omaha, Neb.

Traumatic Perforation of Intestines Without Injury to Abdominal Walls, with Exhibition of Specimen. R. Harvey Reed, Rock Springs, Wyo.

The Immediate Effects of Intestinal Exposure. A. W. Abbott, Minneapolis, Minn.

Case Reports.—(*a*) Fibroma of the Abdominal Wall; (*b*), Double Vagina and Uterus. C. E. Ruth, Keokuk, Iowa.

Some Clinical and Pathological Phases of Stones in the Kidney. A. H. Cordier, Kansas City, Mo.

Our Hospitals. H. D. Niles, Salt Lake City, Utah.

Spina Bifida. Van Buren Knott, Sioux City, Iowa.

Ruptured Tubal Pregnancy with Complications; Report of a Case. E. C. Dudley, Chicago, Ill.

New Operation for Wandering Kidney. E. Wyllys Andrews, Chicago, Ill.

Tri-State Medical Association of Mississippi, Arkansas and Texas.—The eighteenth annual meeting of this Association was held in Memphis, Tenn., November 19, 20 and 21. Dr. William Britt Burns, Memphis, Tenn., delivered the Address in Medicine, and Dr. Joseph P. Runyan, Little Rock, Ark., the Address in Surgery. The following officers were elected: Dr. James B. McElroy, Stovall, Miss., president; Drs. H. L. Sutherland, Rosedale, Miss., William C. Dunnaway, Little Rock,

Ark., and L. A. Yarbrough, Covington, Tenn., vice-presidents; Dr. Richmond McKinney, Memphis, Tenn., secretary, and Dr. Marcus Haase, Memphis, Tenn., treasurer.

Boston (**Mass.**) **Medical Society.**—The fifth annual banquet of this Society was held at Young's, November 19. Dr. Rufus K. Noyes was elected president; Dr. William A. Butman, secretary; Dr. Warren F. Gay, financial secretary, and Dr. Israel J. E. Shapira, treasurer. The president gave an interesting talk on the evolution of medical science and of the medical practitioner. Henry Canning, one of the oldest pharmacists in the city, spoke entertainingly on the relations between the pharmacist and the physician, and Dr. Patrick F. Kelleher, who, besides being a physican, is also a member of the Suffolk bar, gave with the aid of a manikin a very interesting demonstration of his new obstetrical axistractor.

NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, held Nov. 12, 1901.

Dr. Malcolm McLean in the Chair.

Cancer of the Ovary.

DR. W. S. STONE gave the history of the patient and exhibited specimen. Mrs. B., admitted to the General Memorial Hospital, Oct. 14, 1901, age 47; married 26 years; ii-para. Last child was 23 years ago. Both labors and childbeds were normal. No miscarriages. She has always menstruated profusely every month, 12 to 15 days, and accompanied by pains on the right side of the lower abdomen. Her general health has failed, and lately there has been a brownish vaginal discharge between the periods. Upon admission to the hospital she was very pale and somewhat emaciated. The cervix was rather large, hard and nodular. External os admitted one finger; internal os, the tip of the finger. The uterine body felt enlarged, and slightly retroverted and turned to the left. There was behind and to the right a rather hard, globular mass, which felt to be about the size of a grape fruit. It was close to the uterus and seemed to be adherent to it, as they both moved together slightly. A diagnosis was made of cancer of the uterine body, either with a separate tumor, or with a cancerous involvement of the right broad ligament.

An operation was made Oct. 19, 1901. The uterus and tumor were removed from above. The tumor was found to be a separate affair, and presented the only difficulty in the operation because of its firm union with the rectum. The patient quickly rallied from the operation and made an uneventful recovery. The uterus was considerably enlarged and extremely hard. There presented in the left horn a small, ragged growth, which in the fresh state was very soft and brain-like. Its histological structure was that of an adenoma, or the so-called malignant adenoma, or, perhaps, better, an adeno-carcinoma. The tumor was a solid one of the right ovary, and measured in its fresh state 8 by 9 centimeters. Its cut surface was rather homogeneous in appearance, and its outer surface, although slightly irregular, conformed in general to the ovarian shape. There were some softened areas, which proved histologically to be necrotic tissue. In many places, however, it presented the typical picture of carcinoma. A portion of its surface that had been adherent to the rectum was in a condition of almost purulent inflammation, as shown by the small, round-cell infiltration. The right tube, as well as the left tube and ovary were normal.

DR. HERMAN J. BOLDT said that the specimen exhibited by Dr. Stone showed the relationship that had been pointed out a number of times by various writers between malignant disease of the body of the uterus and malignant disease of the ovary and, for that reason, he had always advised performing a radical operation for cancer of the uterine body and removing the ovaries because of the not infrequent involvement of these glands.

DR. J. RIDDLE GOFFE believed, too, that the specimen seemed to show a relationship between cancer of the body of the uterus and cancer of the ovary. The disease was more extensive in the ovary than in the uterus, and, to that extent, the inference would be that it began in the ovary. He was inclined to think, however, that there were two spontaneous foci here, with no relation between them whatever.

A New Operation for Retroversion of the Uterus.

DR. J. D. BISSELL gave a description of a new operation for retroversion of the uterus, and presented a patient upon whom he had performed the operation. The procedure adopted is as follows:

The abdomen is opened in the median line. If pelvic adhesions exist they are broken up and the attached organs are freed, and if the tubes or ovaries are diseased they are removed. The uterus is then grasped at the fundus with the vulsellum forceps and pulled upward. In order to form an exact idea of the extent of relaxation in the round ligament, a suture, on a small round-pointed needle, is first passed from behind forward through the round ligament at a point one-half an inch from its attachment to the uterus; the same suture is again passed, but in an opposite direction, through the round ligament at a point about one inch from the first insertion. A similar procedure is followed on the other side. When these temporary sutures are tied the round ligaments become looped and an exact idea is formed as to the amount of round ligament to be resected. If the tension on the ligament is found to be too great the section is made inside the loop. If not sufficiently taut the section is made outside the loop. Another preliminary but essential step is to pass a suture immediately under the round ligament about one-half an inch and to the outer side of the loop. This, when tied, completely encircles the round ligament and prevents its end from retracting when the section is made. It also facilitates the handling of the ligament when introducing the permanent sutures. The same step is taken on the other side of the loop about one-quarter of an inch from the uterus, but the latter is not so essential as the former. A section of the round ligament is then made inside or outside the loop as is found necessary. The temporary suture forming loop is then cut and this section of the round ligament is dissected away from the broad ligament. The artery of the round ligament is grasped and tied, if severed. The next step is the insertion of the permanent sutures and the adoption and adjustment of the raw surfaces. The first suture is passed on a round-pointed needle from above downward through the center of the round ligament, and then through the other cut end, from below upward. Two other sutures of the same size are passed, one on each side, but only half-way through the ligament, which serve, when tied, to keep the ends in exact position. The sutures in the round ligament are not tied until the raw surface of the broad ligament made by cutting away the resected portion is disposed of. This raw surface is parallel with the course of the round ligament, but is sewed together with No. 1 catgut on a line at a right angle to its original direction. The suturing of this surface should be done before the round ligament sutures are tied and in the following way: With a tissue forceps grasp the broad ligament on the under surface midway. A suture is passed at this point and continued along the denuded edge to the middle of the opposite side. It will be found that the suturing of the broad ligament in this way brings the ends of the round ligament into close apposition. The permanent sutures that have been passed through the ends of the round ligament are then tied and the operation completed.

The following is a brief history of the first case operated on. Mrs. S., 30 years old; operation September 3; curettage and abdominal section. There was complete retroversion, slight adhesion about the right ovary and tube. Symptoms before operation were "pulling and dragging in the bones of the back," pain through the pelvis of such a character as to prevent her from walking or standing with ease; more or less tenseness of the bladder. Menstruation was very free, sometimes lasting twenty days. Two and a half months after operation the uterus is found in perfect position. She had menstruated twice, eight days at each period. She is relieved of all pain and discomfort.

DR. W. GILL WYLIE had examined Dr. Bissell's patient and he found the uterus in good position. The broad ligament was shortened and pulled the uterus up and forward. He preferred this operation to the operation attaching the uterus to the anterior abdominal wall, which he does not now do except

very rarely in women past the menopause. Beyond the required skill to get the ends of the round ligament together he could see no special objection to the operation. His preference, however, was for the Alexander operation, attaching the cord near the end of Poupart's ligament, where we get firm union by white fibrous tissue of the cord and Poupart's ligament. He thought that Alexander's operation covered the field.

Dysmenorrhea, with Special Reference to Its Occurrence in Nulliparae.

DR. WILLIAM R. PRYOR, in this special topic for discussion, thought that we may classify these cases according to their symptoms or according to the local pathology, although the latter is but little understood. Confining his remarks to dysmenorrhea not due to disease of the ovaries and tubes, he stated his belief that many of the cases were due to errors of development and others to changes which take place with advancing years. In the first class of cases he found usually associated with dysmenorrhea errors or irregularities in development of other parts of the body. We could understand how this would be so in the light of our knowledge that the endometrium was not a mucous membrane, but a part of the great lymphoid chain. Conditions similar to the congenital ones may be brought about by sterility, for an organ which should have two years' rest from a routine menstruation and receive those benefits which follow the essential structural changes incident to conception and delivery, must undergo some modification in its structure. We find these changes associated with and not caused by various distortions of the cervix and of the body of the uterus. He was in the habit of taking a little broader view than the one laid down in our books. He tried to build these patients up if they needed it. If plethoric patients, he regulated the diet to meet that condition; if gouty he treated that, etc. His local treatment was based upon the supposition that he had to deal with a malformed or degenerated endometrium. This was sometimes hypertrophied and sometimes atrophied. He always, if he operated at all, performed a curettage in such a way as to promote the formation of a new histological endometrium. If the cervix was hypertrophied, he either amputated or incised along the lines of Simpson, Sims, or modification of Dudley. If the cervix was merely stenosed, incision was sufficient. He said it was needless to go into the technique of these several operations or their particular indication. So far as nonoperative cases were concerned, he got the best results from gelsemium and cannabis indica if the flow was too free, or with hyoscyamus if hysteric symptoms were marked. He always avoided the administration of the coaltar derivatives and of the opium compounds. If the patient was married he expected in the line of treatment conception, which he believed to be the radical cure. The wearing of stems and repeated dilatations he considered mischievous.

DR. HERMAN J. BOLDT shared, to a great extent, the views expressed by Dr. Pryor, and treated patients suffering from dysmenorrhea variously. Many times patients suffer from dysmenorrhea when no pathologic condition can be found in the pelvis, and he was at a loss to account for the causation of such cases.

DR. HENRY C. COE said that while he was inclined to agree with Dr. Pryor in believing that so-called "obstructive" dysmenorrhea could not always be explained satisfactorily by reference to the mechanical theory, he could not subscribe to his statement that disease of the endometrium was the only cause, for it seemed to him that the evidence, both clinical and anatomical, was opposed to that view. Often in these cases the vigorous use of the curette fails to show the presence of a hyperplastic endometritis, and even when the anteflexed uterus was examined after removal intra vitam or at autopsy, such marked evidences of disease as would account for the painful symptoms is seldom found. On the other hand, all had had experience with the Dudley operation and have seen the dysmenorrhea cured by permanently straightening the canal. He would emphasize the fact that many cases in which painful menstruation was apparently due to flexion were by no means as simple as would appear from the results of examination. He thought the subject was too broad to be discussed only from the standpoint of mechanical obstruction or disease of the endometrium.

DR. W. GILL WYLIE said that he held the same views regarding dysmenorrhea to-day that he held seventeen years ago, when this subject was the text of almost his first paper. He then took the ground that the real cause was dysmenorrhea due to imperfect development; that the membrane, especially in the young women of the better class, was not nourished sufficiently to become a normal lining membrane; that it was deficient in blood supply, weak and feeble, and the easy prey of disease; therefore, when the function of menstruation began it could not be performed normally. He confessed that he was unable to state just what the exact pathologic condition was, that it was a chronic form of endometritis, causing excessive hyperesthesia. His definition of dysmenorrhea was that it was a pain just before or during the menstrual flow and his own test for the condition was as follows: If a nulliparous woman complains of pain before menstruation, or after it begins during the flow, the uterus will, as a rule, be found abnormally small, especially about the cervix and at the os internum, and if active disease be excluded, you will always find present an anteflexion. He did not think that any mere mechanical act of opening the canal would have much to do in overcoming the difficulty. The patient he placed in the Sims position, and a small silver probe, the same kind that Dr. Sims used, was passed. If that woman was suffering from dysmenorrhea, almost without exception the passing of that silver probe will cause pain, especially when the probe reaches the os internum; at this point the tissues are extremely sensitive. He considered this test almost pathognomonic. Given such a case in a woman who is well, whose general health is fair, with an atrophied and extremely imperfectly developed uterus which does not extend to the ovaries and other generative organs, it was his experience that if you thoroughly divulse and produce a fair amount of dilatation and splitting the muscular tissue and tearing them, good results would follow. He was satisfied that one-quarter to one-half an inch separation of the blades of the dilator, with not less than 200 pounds pressure, would accomplish good results. The old method of claiming that one to one and a half divulsion was wrong and was only apparent and not actual unless the whole muscular structure at the os internum was torn through. He never used violent mechanical power. After divulsing the canal he ran over the surface of the endometrium with a curette if indicated, and then placed in a hard-rubber drainage tube the size of a lead-pencil; this tube has a somewhat bulbous conical end with a slot, which takes up fully one-third of the caliber of the tube; it has a round button-shaped end in the vagina. In some cases he thought that curettement was very useful and essential where there are pathologic conditions to deal with, but, in many instances, curettement does not bring away very much. He claimed that even a thorough divulsion would not give lasting results, relief being experienced but a short time. His experience had taught him that when we dilate and use a hard-rubber drainage tube, keeping the os internum open for a week or more, a great many cases would be cured, but a large percentage would not be cured. By accident he found that the tube could be left in through one menstruation and then, as a rule, should be taken out. In obstinate cases the tube could be left in through two menstruations without danger and the patient could go about. In very many cases of imperfect development this operation would give results which lasted three, four and even six months; but in typical severe cases there was likely to be a return of the trouble. One should give time for the organ to grow, and so in these extreme cases the procedure may have to be repeated three times. He said that if to-day he got 10 cases of dysmenorrhea in patients all under 23 or 24 years of age, he would expect to cure not less than 9 out of the 10. He had treated several hundred of these cases without the slightest accident or serious consequences from the use of the tube so far as he knew. Formerly he used gauze in the vagina to keep the drainage-tube in place, but a hard rubber Albert Smith pessary was much better and was essential when the

tube was worn during menstruation. This method had been of much value to him in caring for women who were sterile; in such cases, uncomplicated by occluded tubes, gonorrhea, etc., good results frequently follow this treatment. He had used this method during the past twenty years, and the only change he had made was in perfecting his method.

DR. J. RIDDLE GOFFE said that the imperfectly developed uterus as one of the principal causes of dysmenorrhea had been one that has dominated his treatment, and his experience justified him in assuming that in all cases where dysmenorrhea began with the first menstruation, they were invariably cases of imperfect or faulty development. There was another class of cases, women, nulliparæ and multiparæ, who had been free from pain in the early history of menstruation and later develop dysmenorrhea. These patients were the victims of some pathologic lesion and almost invariably, in his experience, it had been due to an infection from gonorrhea, either an endometritis, salpingitis or an ovaritis, and sometimes all three together. When the latter condition existed the method of procedure was clear and the results in the hands of all present had been, he thought, satisfactory in the way of cure so far as the dysmenorrhea was concerned.

In the first class of undeveloped uterus there was a lack of development not only of the uterus itself, but also of the tubes and ovaries and of the whole circulatory apparatus. To accomplish a permanent result the treatment must be continued throughout a long period of time, one or two months, and, in extreme cases, dilatation and curettage under an anesthetic, followed not by the use of the hard tube, but of the gauze pack. If a patient comes to his office suffering from dysmenorrhea she will usually be found to be sterile, and he always insists that she shall place herself under his care for at least three months. Then, under careful antiseptic precautions in the office, he dilates the cervix and makes an application of pure carbolic acid to the internal os and the interior of the uterus. If, after two or three treatments, he finds no indications for any change of treatment he continues to treat her twice a week for three months. At the end of that time he tells her that he does not wish to see her again for three months and it had been his experience in a number of cases to find that when she again returns she will give a history of having skipped a period and it eventuates that she is pregnant. If, though, she still complains of pain, he continues to treat her for another three months. If the first course of treatment is without benefit he advises a more radical treatment, and, under an anesthetic, he thoroughly dilates the internal os, curettes the interior of the uterus, and, instead of using a hard-rubber tube, he packs the uterus with gauze, which acts as a foreign body and so stimulates contractions. The uterus being a muscular body, is developed by exercise, and in the efforts of that organ to expel the gauze packing the walls of the uterus in all its muscular structures are strengthened and developed and the circulation improved. The gauze is left in place for four days, at the end of which time in all cases he finds more or less of the gauze expelled from the uterus, which shows that there has been strong muscular contractions. His object was not only to develop the muscular structures, but also to stimulate the circulation not alone of the uterus, but of the entire generative apparatus.

DR. W. EVELYN PORTER believed that the form of drainage to be used in these cases should be judged according to each individual case. If there was a large uterus he agreed with Dr. Goffe that sometimes the mere packing that organ with gauze would be productive of good results, but the objection was that there was not sufficient drainage which was so essential, as, in nearly every instance, there was more or less increase in the secretion which must be drained; therefore, he had found that when the gauze was left in a sufficient length of time to produce the desired effect that it obstructed rather than drained. He had had a few cases where the slot in the drainage tube referred to by Dr. Wylie had become obstructed by blood clots and mucus, and, in order to overcome this obstruction, he had had made a stem with a device for flushing out the slot without the necessity of its removal.

DR. HIRAM N. VINEBERG said that in the slighter degrees of arrest of development, where we meet with a long, narrow cervix and a moderately sized body sharply anteflexed, dilatation and curettage were of decided benefit, and in this class of cases he had found the employment of the cervical stem gave better results than where dilatation and curettage alone had been employed. It was his custom to remove the tube and irrigate the uterine canal with a glass catheter and then reintroduce it and leave it in for one week or ten days. In this class of cases he had several times performed the Dudley operation with a fair amount of success. No treatment had been of service in that other class of cases where the uterus was found in the form of a congenital retroversion of about the second degree. If these patients marry, menstruation almost always ceases, which is different from what we expect; the stimulation of married life seems to have the opposite effect; menstruation ceases or else occurs once in five or six months. In some cases he had found the intrauterine application of galvanism had been productive of good results, 25 milliamperes being used; sometimes these patients will remain well for two or three years.

DR. JOSEPH BRETTAUER was astonished at Dr. Wylie's statement that he had cured 9 out of 10 of these cases, for he had been so far decidedly unsuccessful, even when using the method described by him. About two years ago he saw a book entitled "Nase und Weibliche Geschlechts-organe," by Fliess, in which was reported a number of cases of dysmenorrhea cured temporarily and permanently by the application of cocain to certain parts of the nose. No explanation was needed as to why the book did not impress him greatly at the time, but when, however, one year afterward an article appeared in the *Wiener Klin. Wochenschrift*, corroborating in substance what Fliess had maintained for several years, he decided to go into the matter seriously. The observations described in the latter article were made at Chroback's clinic in Vienna, and knowing from personal connection with this clinic the conservative spirit with which it was directed, doubt was out of the question. According to Fliess, the anterior half of the lower turbinated bone and the tuberculum septi of the nose were the points which were in some way connected with the genital organs, and this was proven by the cocain test, followed in proper cases by cauterization. The speaker's personal experience so far was limited, and not uniformly satisfactory. The cases of dysmenorrhea in which other efforts had failed were benefited by the application of cocain to the nose, but, so far, his successes were fewer than the failures; still he was of the opinion that the subject deserved close attention and trial.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Regular Meeting, held Oct. 21, 1901.

The President, Dr. Parker Syms, in the Chair.

DR. HEINRICH STERN exhibited a new percussion mallet, and demonstrated its action upon a patient. It is actuated by a spring after the manner of the well-known dental mallet, and a pleximeter, in the form of a small disk, is permanently attached to its distal end. Aside from the convenience of having hammer and pleximeter in one piece, an advantage claimed for this instrument is that its strokes are uniform in both force and duration.

DR. J. W. S. GOULEY presented a new retractor that he had devised for use in connection with enucleation of the prostate. The instrument is introduced with the beak looking upward, but after it has reached the bladder it is reversed.

Fibroid Tumor of the Fallopian Tube.

DR. J. RIDDLE GOFFE exhibited a rare specimen. The tumor was upon the left tube, about three-fourths of an inch from the horn of the uterus. It had been taken from a young woman who had suffered for many years from dysmenorrhea. The fimbriated extremity of the other tube was found sufficiently open to admit the thumb, and protruding from this opening was a cyst of Morgagni. Dr. Goffe said that he had only found one case of this kind on record, and that had occurred in the experience of Jacobs, of Brussels.

DR. A. PALMER DUDLEY said that he had seen only one fibroid tumor of the Fallopian tube in his whole experience,

though he saw no reason why the same conditions which give rise to fibromata in the uterus should not produce fibromata of the tubes. These tumors were just as apt to occur in the young woman as in those near the menopause.

DR. FREDERICK HOLME WIGGIN said that he had never before seen a case of this kind.

DR. A. BROTHERS said that this had also been his experience, but he had met with two fibroids of the ovary.

Spasmodic Affections of the Larynx.

DR. EMIL MAYER said that rachitis stood at the head of the list of causal factors, but other common causes were dentition, enlarged glands, inflammation of the air passages, disturbances of digestion and an excess of lymphoid tissue. Unless the attack was due to direct cerebral irritation the prognosis was good. Death sometimes occurred from asphyxia, heart failure or cerebral compression. Attention to the diet and general hygiene of the child would do much towards ameliorating the condition, and chloral and the bromids would be found useful in the treatment of the attack. While laryngeal spasm was much less frequent in adults it might arise in connection with hysteria, chorea, epilepsy, tetanus, hydrophobia and tabes. A very interesting form of spasm of the larynx was that known as laryngeal vertigo or laryngeal epilepsy. Asthma, excessive smoking, hypertrophy of the uvula and of the lingual tonsil, and tabes were among the prominent causes. The attack simulates an epileptic seizure, but may be differentiated therefrom by the tongue not being bitten in laryngeal vertigo, and by the absence of involuntary defecation, of headache and by an almost entire absence of muscular spasm. The speaker described stammering as the result of the inco-ordination of the three mechanisms of speech, the respiratory, the vocal and the aural. For some reason, as yet not satisfactorily explained, fully 95 per cent. of stammerers are males. By gentle and persistent effort physiologic voice sounds should be taught, and the extrinsic muscles brought into proper action. In this way a cure could usually be effected.

DR. FRANCIS J. QUINLAN said that upwards of 85 per cent. of cases of spasmodic affections of the air-passages occur in children. He was disposed to minimize the effect of intestinal disorders. A most careful search should be made for accumulations of lymphoid tissue, for hypertrophied tonsils and for other abnormalities of the upper air-passages.

DR. WILLIAM M. LESZYNSKY said that the spasmodic affections of the larynx which are of special neurologic interest arise in patients who are the subjects of hysteria, chorea, epilepsy or locomotor ataxia. The laryngeal spasm, occurring in local affections of the larynx, was usually the result of direct irritation of the terminal nerve distribution in the larynx itself. The type seen by the neurologist, however, was usually due to some form of irritation of the pneumogastric nerve or the recurrent laryngeal branch, and was either of central or reflex origin. Children were more predisposed to spasm, on account of their inherent reflex irritability. It had also been frequently noted that spasm of the glottis in children bears a close relation to tetany, which is so commonly associated with rachitis. In the more severe forms of hysteria, spasm of the glottis might occur in violent paroxysms, and the patient might appear to be on the point of death by suffocation. It was usually accompanied by other spasmodic or convulsive symptoms. Although of very rare occurrence, it was not without danger, and on account of the condition threatening life, tracheotomy had been performed. A subcutaneous injection of apomorphin, however, generally proved successful in relieving the spasm. The so-called laryngeal epilepsy, or laryngeal vertigo, was a very rare condition, and might be classified as a reflex neurosis. It was characterized by a paroxysm of coughing, followed by sudden dyspnea, syncope, and slight convulsive movements, the patient falling unconscious for a short time. It occurred chiefly in males between 40 and 50 years of age.

DR. J. H. WOODWARD spoke of laryngismus stridulus, a spasmodic affection of the larynx only found in children. It was closely associated with rickets, and was best treated by the bromids and tonics, together with hygienic measures.

DR. C. E. QUIMBY alluded to a form of spasmodic affection of the larynx commonly observed in persons who had indulged a good deal in drinking before retiring at night. He said that his experience had led him to believe that this was dependent upon cardiac exhaustion.

DR. A. C. WAY, Perry Center, remarked that he had found attacks of spasmodic croup yield very promptly to injections of nitroglycerin.

DR. D. S. DOUGHERTY said that, as a result of a statistical inquiry that he had been conducting, he had been astonished at the very large proportion of croupy children who are troubled with adenoids of the pharynx. To show the necessity for a thorough search for the cause, reference was made to an obstinate case of spasmodic laryngitis that had been the rounds without relief; after thorough cocainization and patient examination he had discovered a small medal wedged in between the arytenoids and the epiglottis; the removal of this foreign body cured the child.

DR. M. E. VARNEY, Saratoga Springs, said he wished to add his personal testimony to that of Dr. Way regarding the efficacy of nitroglycerin in spasmodic laryngitis.

DR. H. W. BERG spoke in favor of treating cases of laryngismus stridulus with bromids just as one would do in a case of epilepsy.

Report of the Committee on Vaccination.

DR. FREDERICK W. LOUGHRAN presented the report of the committee on vaccination. Although the work of the committee thus far had been tentative, and the Association took no definite action upon the report at this time, certain suggestions and recommendations were embodied in the report. The more important of these were the following: 1. All boards of health in cities and towns should furnish the means for vaccination and revaccination. 2. The state should have authority to enforce vaccination during the prevalence of smallpox. 3. No child should be admitted to school who had not been vaccinated within five years successfully, or who could not produce a certificate from a reputable physician, stating that vaccination had been twice performed, and that vaccinal insusceptibility exists. 4. The inmates of state asylums and members of the National Guard should be required to be vaccinated. 5. All corporations or firms having in their employ ten or more persons should be required to see that all such employes have been properly vaccinated, or are provided with a certificate as already mentioned. 6. The penalty for the violation of such vaccination laws should be a fine of $50 to $100, or an equivalent term of imprisonment, this penalty not to stand in lieu of vaccination.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Fourteenth Annual Meeting, held in Richmond, Va., Nov. 12, 13, 14, 1901.

(Concluded from p. 1482.)

President Dr. Manning Simons, Charleston, S. C., in the Chair.

THIRD DAY—MORNING SESSION.

Foreign Bodies in the Esophagus.

DR. JOHN W. LONG, Salisbury, N. C., stated that this accident occurred usually in children and lunatics. It is always possible when a patient is under an anesthetic, and even food may become impacted in the esophagus. The presence of a stricture, pouch, or malformation increases the liability to this accident. A foreign body in the esophagus carries with it both immediate and remote dangers. If lodged high up, there will be dysphagia, retching, and sometimes suffocation, as in a case seen by the writer two years ago, in which an inch screw entered, point downward, the upper end of the esophagus of a 3-month infant, and impinged upon the trachea. When the foreign body is lodged lower down, the danger is more remote and less easily remedied. Unless removed, foreign bodies almost invariably penetrate or ulcerate into some important viscus, as the pericardium, aorta, mediastinum, the pleura.

Gunshot Wound of the Abdomen.

DR. JOHN C. WYSOR, Clifton Forge, Va., reported a case of gunshot wound of the abdomen; the 38-caliber ball entered about three-quarters of an inch above the left anterior superior spine of the ileum. Patient was anesthetized fifteen hours after the receipt of the wound, having been transported a long distance. The author first enlarged the wound in the skin, and with his finger as a probe followed the track of the bullet until he felt the opening in the peritoneum. He then made an incision in the median line below the umbilicus which was afterwards extended from a little above the navel to near the pubes. The omentum was very short, not reaching as low as the umbilicus, and the coils of intestines presented immediately under the incision. The first knuckle picked up showed two perforations, which were immediately cleansed and closed with Lembert sutures, using fine chromicized catgut and he continued to close the openings as he came to them, until he had sewed up nine perforations. Following the gut still further, he found a portion seven or eight inches in length in which there were six more perforations. As some of these openings were very close together, he feared that in repairing them he might constrict the gut, or that there might be subsequent sloughing. He therefore excised that portion of the intestine, doing an end-to-end anastomosis by means of a Murphy button. Recovery was uninterrupted.

Penetrating Wounds of the Abdomen.

DR. E. D. FENNER, New Orleans, gave in detail the histories of six laparotomies for penetrating wounds of the abdomen and statistical tables of 152 cases operated on at the Charity Hospital.

Nephro-Ureterectomy.

DR. J. WESLEY BOVEE, Washington, D. C., detailed a report of two cases. The first one was a nephrotomy followed by incomplete nephro-ureterectomy for pyonephrosis, adrenal tumor and pyo-ureter; extraperitoneal operation; recovery. The second case was nephrotomy followed by complete nephro-ureterectomy for pyonephrosis and pyo-ureter; extraperitoneal operation; recovery. After narrating these two cases the author dwelt upon the indications for nephro-ureterectomy, saying that the principal reason for this operation is tubercular disease of both these structures.

DR. GEORGE H. NOBLE, Atlanta, read a paper in which he spoke of and advocated the use of adhesive straps for the prevention of laceration of the perineum in forceps delivery. He also described a method of removal of fibroid tumors through the vagina by continued spiral incision.

Report of Case of Hepatotomy for Biliary Obstruction.

DR. W. E. B. DAVIS, Birmingham, Ala., read this paper. The case was the fourth in which he had performed this operation, the first having been done in October, 1898. The operation is indicated in cases of obstruction with enlarged liver, where the gall-bladder or ducts can not be isolated, or the patient's condition from exhaustion and cholemia will not permit of a protracted search for the bladder or ducts, and is intended to bridge the patient over for a radical operation. It will be only exceptionally called for, but is the only available procedure in such cases. The bile will escape from an incision in the liver as it does in a cholecystostomy, and after the patient's condition has improved, the stone may be removed from the duct. The operation will be less frequently called for, as the surgeon's experience increases in choledochus operations, as he will then be better able to locate the bladder and ducts so much changed. The operation should also be resorted to in hepatitis before it has reached the stage of pus formation, if the liver does not rapidly become smaller after drainage of the gall bladder or ducts.

THIRD DAY—AFTERNOON SESSION.

DR. JOSEPH TABER JOHNSON, Washington, D. C., detailed two interesting cases in which attempts were made to produce abortion. In one case a medical man attempted to produce abortion at about the tenth week of gestation by inserting into the uterus a No. 8 flexible bougie. Some difficulty was experienced in getting it to pass the internal os, but after persistent effort the instrument was pushed up nearly its entire length, leaving perhaps two inches protruding into the vagina. The bougie was supposed to be coiled up in the uterus. Its expulsion was prevented by a cotton tampon pushed high up in the vagina. A physician informed the writer that when he removed the tampon the fetus and a portion of the membranes came away. He was unable, however, with the most diligent search to find the bougie, and finally came to the conclusion that it must have slipped out without the patient's knowledge, during one of her many visits to the closet in the night. The second day after the abortion, the patient had a severe chill, followed by a considerable acceleration of pulse and temperature, with gradual but steady increase of abdominal pain and distension. Dr. Johnson saw the patient in consultation, made an abdominal section, and removed the bougie from the peritoneal cavity.

The second case was one of ruptured umbilical hernia, in which several feet of intestine had been out on the surface of the abdomen and covered with unsterilized cloths and bandages for at least seventeen hours. The patient had had the hernia for fifteen years, and was 57 years of age. The intestines were very dark and very cold and dirty. A thorough cleansing and warming with hot salt solution succeeded finally in getting them and the adjoining skin of the abdominal wound into a tolerably fair condition. About a pound of omentum was removed, which bled in a number of places, from which adherent clots had been detached. The tight rim encircling the protruding gut was incised above and below, and the three feet of intestine returned to the abdominal cavity, which was subsequently filled with hot salt solution. A rather long and difficult operation was then performed for the radical cure of an old umbilical hernia in a very fat abdominal wall. The woman gave every promise of getting well for seven days, then she suddenly grew weak, and collapsed and died on the eighth day apparently of a general septic peritonitis.

DR. SOUTHGATE LEIGH, Norfolk, Va., reported a case in which he did a plastic operation for loss of base of the bladder. He also narrated a case of ovarian cyst in a negro woman which was complicated by a fibroid tumor of the uterus.

Hernia of the Ovary.

DR. WILLIAM P. MATTHEWS, Richmond, Va., reported this case. The patient, Miss E., aged 17, 5 feet, 6 inches high, weight 145 pounds, strong and robust, was born with a swelling in each inguinal region which did not occasion any alarm or produce any inconvenience until she reached her 14th year, when they began to enlarge and at intervals became so tender as to confine her to bed for two or three days. Pressure on them produced pain and nausea. She never menstruated. The author operated for the relief of the hernia, following the Bassini method. The sac was firmly adherent to the internal ring and to the adjacent part of the canal. The sac was opened and a tumor enclosed in several layers of fascia was exposed, carefully dissected out and examined. It proved to be an adenoma of the ovary, though it looked more like a testicle than an ovary. The specimen consisted of four distinct parts: 1. An oval flattened body, 6 cm. long, 3 wide, and 1.3 thick. 2. A cystic tube, 5.2 cm. long, one end of which was dilated. This was joined in part to the body by fibrous connective tissue. 3. Parallel and beneath was another tube which entered the body. 4. Perpendicular to this latter tube was a third tube which also entered the body. Upon section the body showed a grayish-red surface, with one white well-isolated tumor. The microscopic examination was made by Dr. G. Baughman, which accompanied the paper. Examination revealed absence of the uterus. The ovary was removed and the parts closed in the usual manner, and the patient left the hospital in three weeks.

Inquiry into her family history revealed interesting facts. Her great-grandmother was an only daughter. She was twice married, and bore children in each union. Of the female descendants of the first marriage there were eight that were

never unwell in their lives, and all lived to be over 20 years old. Of the second marriage there was one of the two daughters who was never unwell. Two aunts of the patient have never menstruated, and one has a double reducible inguinal hernia. Five first cousins of the patient have never menstruated, and two of these are ruptured just as she was. One sister of the patient has never menstruated, and has a reducible hernia in the left side, an irreducible on the right. One fact he learned is that these women who have never menstruated have hardly any hair in the axilla and on the pubes and are not troubled by any unpleasant odor from the perspiration.

DR. GEORGE S. BROWN, Birmingham, Ala., read a paper in which he described a modified Hodgen's splint for the treatment of fractures of the thigh. He also demonstrated the application of this splint on a negro.

DR. CHARLES P. NOBLE, Philadelphia, read a paper on "The Treatment of Procidentia Uteri."

The following officers were elected for the ensuing year: President, Dr. W. E. B. Davis, Birmingham, Ala.; first vice-president, Dr. J. Wesley Bovée, Washington, D. C.; second vice-president, Dr. John W. Long, Salisbury, N. C.; secretary, Dr. W. D. Haggard, Jr., Nashville, Tenn.; treasurer, Dr. F. W. McRae, Atlanta, Ga.

Cincinnati, Ohio, was selected as the place for holding the next annual meeting, the second Tuesday in November, 1902. Dr. Thaddeus A. Reamy was selected as the Chairman of the Committee of Arrangements.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

PRESCRIPTION WRITING, IV.

(Continued from p. 1486.)

NECESSITY OF CARE.

The necessity of avoiding ambiguity has already been dwelt on to some extent. Every prescription, however, should be carefully read by the writer in order that due care may be taken to avoid omissions or mistakes in the size of the dose given and to review carefully the directions to the patient. The young physician experiences no little difficulty in calculating properly and quickly the doses of each ingredient if he writes a compound prescription, and especially is the difficulty increased if he desires to express the amounts in the form of the metric system.

In calculating the size of the dose many things must be taken into consideration which include some of the following important points:

1. The age of the patient.
2. The form of administration, if given by the mouth.
3. The frequency of administration.
4. The idiosynerasy of the patient.
5. The action of each ingredient individually and combined.
6. Whether the ingredients are fugitive or cumulative in action.
7. The methods of administration.
8. The avoidance of incompatibility.

AGE OF THE PATIENT.

Narcotics and opiates should be administered to children with great care. There can be no doubt that opiates are prescribed a great many times in treating the summer diseases of children where other and milder preparations would be of far greater service. While children and infants are very susceptible to the action of opiates, on the other hand they can withstand the effects of cathartics in much larger doses, comparatively speaking, than can adults. For instance, infants only a few months old may be given the mild chlorid of mercury in doses of gr. 1/10 (.006) to gr. 1/6 (.01) every hour until several doses are given if necessary, which is practically equal to the dose given an adult. In prescribing for the aged, however, extreme care must be observed in the administration of cathartics. Cases have been reported in which cerebral hemorrhage and consequent hemiplegia have resulted from prescribing too large doses of active cathartics. Such results are to be expected when arteriosclerosis is present in a marked degree and when the cerebral arteries, lacking the proper resiliency, give way to the undue pressure produced by the overstraining at stool as a consequence of the purging.

ADMINISTRATION PER OS.

In speaking of the second point, the age also of the patient must be borne in mind. Children can not swallow a capsule, and it is with difficulty that they can be induced to take medicines which are unpleasant to the taste. Therefore, in prescribing liquid preparations for children a palatable vehicle should be prescribed, and when prescribing it in the powder form the same observance as to palatability must be carried out. For illustration, instead of prescribing quinin sulphate for children, some other preparation of quinin devoid of this objectionable taste should be used, such as the tannate of quinin, which will be readily taken by the patient. Euquinin is also a tasteless preparation. It is not uncommon to have requests from adults not to give them medicine in capsule form owing to their inability to swallow the capsule.

(To be continued.)

Treatment of Scarlatina in Its Graver Forms.

M. Arviragnet, in *Presse Médicale*, recommends hydrotherapy rather than antithermic remedies for the reduction of temperature. The temperature of the bath may range from 64 to 68 F. for adults, and 77 F. for children. In the latter case, if applications are to be long continued, cold packs are better borne. In the cardio-bulbar forms, with irregular heart action and respiration, and a tendency to syncope, the best results are obtained by injections of caffein from grs. iii (.2) to grs. vii (.45), or spartein sulphate grain 1/2 (.3), or strychnin sulphate gr. 1/60 (.001). In the hemorrhagic forms, in addition to the preceding measures, ergotin, iron, rhatany and hamamelis are advised. The following combinations are sometimes administered:

R.	Acidi gallici	gr. xv	1
	Syr. aurantii	ʒi	32
	Aq. destil.	ʒii	64
M.	Sig.: One teaspoonful every hour or two.		

M. H. Roger, as noted in *N. Y. Med. Journ.*, obtains good results from the employment of calcium chlorid in hemorrhagic scarlatina:

R.	Calcii chloridi (crys.)	3i-3iss	4-6
	Tinct. cinnamomi	ʒi	4
	Spts. vini gal.	ʒi	32
	Syr. aurantii	ʒx	40
	Aq. destil q. s. ad	ʒiv	128
M.	Sig.: The above to be taken in divided doses in twenty-four hours.		

To Control Hemorrhage.

The following combination has been employed to check hemorrhage from any cause:

R.	Tinct. hydrastis Tinct. viburni, āā	3iii	12
	Tinct. hamamelidis Tinct. castaneæ (chestnut), āā	3vi	24
M.	Sig.: Take 15 to 20 drops before each meal in sweetened water.		

Treatment of Dental Caries.

The following is recommended by *Jour. des Pract.* as a disinfectant in treatment of dental caries:

R.	Formaldehyd	3v	20
	Spts. geranii	3iiss	10
	Alcoholis (80 per cent.)	3v	20
M.	Sig.: Apply locally.		

Treatment of Influenza (La Grippe).

The following are Huchard's formulæ to be employed in treatment of la grippe:

℞ Quininæ sulphatis.
Extracti cinchonæ, āā.....3ss 2|
Extracti aconiti rad.....gr. iss |09
M. Et divide in pil. No. xx. Sig.: One, three times a day.

When pulmonary catarrh and inflammation is present in such cases, he prescribes the following:

℞ Pulv. ipecacuanhæ comp.....3ss 2|
Pulv. scillæ.....3ss 2|
Quininæ sulph.....3ss 2|
M. Et divide in pulv. No. xx. Sig.: Four or five daily.

For the gastric pain and vomiting the following:

℞ Sodii bicarb.
Mag. calcinatæ.
Bismuthi salicylatis, āā.....gr. v |30
Misce et fiat chartula No. i. Sig.: One such powder every four or five hours.

Agalactia (Deficiency of Milk).

℞ Tinct. nucis vom.....3iv 16|
Calcii glycerophosphati .....gr. xv 1|
Elix. calisayæ .....℥iv 128|
M. Sig.: One tablespoonful three or four times a day in water.

Treatment of the Convalescent Stage of Diphtheria.

Yeo states that there can be no doubt as to the value of strychnia as a cardiac tonic. He recommends it in the following prescription form:

℞ Ferri et quin. citratis .....gr. lxxx 5|30
Liquoris strychinæ.....3ss 2|
Acidi hydrochlor. dil.....m. lxxx 5|30
Aq. chloroformi q. s. ad.....℥viii 192|
M. Sig.: Take two or three tablespoonfuls twice or three times a day an hour after meals.

For children the following is advised:

℞ Syr. ferri phosphatis.....℥i 32|
Calcii hypophos .....gr. xlviii 3|20
Quininæ sulphatis .....gr. xxiv 1|66
Liquoris strychninæ .....m. xlviii 3|20
Acidi phosphorici dil .....m. xxiv 1|66
Aquæ q. s. ad.....℥iv 128|
Misce, fiat mistura. Sig.: One or two teaspoonfuls, according to age twice or three times daily.

As a disinfecting mouth wash the following:

℞ Pot. chloratis pulv. .....℥ii 8|
Glycerini boracis .....℥i 32|
Acidi borici .....℥ii 8|
Glycerini acidi carbol.....℥i 32|
Aq. menth, pip. q. s. ad.....℥xii 384|
Misce, fiat gargarisma. Sig.: To be taken and mixed with equal quantity of hot water and used.

Prevention of Abortion.

Horrocks, as noted in *Med. Record*, recommends the following precautions for the prevention of abortion: Avoid overstrain, shock and fright. Operations should not be performed if they can be avoided; especially should the extraction of teeth be avoided. Avoid using instruments about the uterus and cervix, and too hot douching. Pessaries should not be worn after the fourth month. Purging should not be resorted to nor should enemata with turpentine or glycerin be used. Cessation from coitus aids gestation to progress to full term. Uterine displacements should be remedied if possible and tight lacing prohibited.

Drugs which have any tendency to ecbolic action should not be administered to a pregnant woman. The following drugs are included in this list: Ergot, savin, digitalis, quinin, lead. We might add that large doses of aloes by producing a congestion of the female organs of generation may be considered in the above list. Syphilis if present should be treated in the parents and very often small doses of mercury may be advantageously given throughout pregnancy. Overnursing must be avoided. The administration of alcohol should be carefully guarded and in most cases avoided altogether. High pyrexia from any cause must be reduced and controlled by cold baths.

Medicolegal.

Crime Against Nature—Evidence.—The Supreme Court of Illinois holds, in Kelly vs. People, that the statutory provision that "the infamous crime against nature, either with man or beast, shall subject the offender to be punished by imprisonment in the penitentiary for a term not more than ten years," covers the offense committed by the mouth, although the common-law crime against nature does not. Nor does it seem to think that any distinction is to be drawn between cases in which the accused is charged with using his mouth upon another, and in which he uses the mouth of another upon himself. Furthermore, the court, while not unmindful of the fact that the crime is of a class easily charged and difficult to disprove, and that it should therefore be established with clearness, sustains a conviction in this case upon the uncorroborated testimony of a boy between 6 and 7 years of age. Consent on the part of the boy, it says, could not be presumed, he being incapable of understanding the nature of the act. He was incapable of committing a crime.

Admissible Evidence of Physician in Injury Case.—The Supreme Court of Illinois says, in City of Salem vs. Webster, a personal injury case brought by the latter party, that objections were made to the testimony of physicians as to what the party suing said to them while being examined and treated in describing his feelings and detailing the nature and location of his pains and sufferings. But it holds that the evidence was admissible, because as to such matters the opinions of the physicians must necessarily be formed and guided by statements of the patient. Moreover, one of these physicians was near by when the accident in question happened, and, with another person, picked the injured man up, and carried him to his house. He was allowed to state that the man at that time cried out with pain, and described the pain in his back. What was stated, the court goes on to say, was not a recital of any past event, but the natural expressions of suffering. The physician took the man right into his own house, close by, and immediately administered to him as a physician. The physician heard the accident, and was at the spot almost immediately, and was guided by the groans of the man to the place where he lay. The evidence, the court holds, was admissible as the natural expressions of suffering, if not as a part of the res gestæ, or essential circumstances of the case.

Physician's Opinion Evidence of Permanent Injury.—Supreme Court of Illinois says, in Donk Bros. Coal & Coke Company vs. Peton, that the physician who treated the latter party after he was injured testified that he found a fracture of both bones of the leg, one at the ankle-joint and one about two inches above the ankle-joint; that the smaller bone was broken right at the ankle-joint, and that the man would "never have a permanent ankle-joint." Notwithstanding this, it was contended that there was no evidence of a permanent injury on which an instruction could be based that if the jury found from the evidence that the man's injuries were permanent, they might take that fact into consideration, and award him such damages as, from the evidence, they might believe was just and right, and such as would compensate him for his injuries. The Supreme court, however, does not agree with the contention, but holds that if, in the opinion of the physician as thus testified to, the man would never after the injury have a perfect ankle-joint, the court could not say that there was no evidence of a permanent injury, and that, therefore, the instruction was not erroneous on the ground contended.

Things Patient May Rely on—Conflicting Evidence.—In the case of Schoonover vs. Holden, which was brought to recover for the alleged negligent treatment of a lateral dislocation of the knee-joint, the attention of the Supreme Court of Iowa was called to the following instruction asked in behalf of the physician sued: "It is the duty of the party injured

to use all reasonable efforts on their part, so far as possible, to prevent damages from resulting therefrom. And, if they do not do so, they can not recover for such damages or injury as they might have thus prevented. Upon this branch of the case you [the jury] are instructed that you may take into consideration the knowledge, if any, the plaintiff has shown to have had of the injury complained of; her knowledge, if any, as to the condition of her limb after the defendant had told her that it was reduced, and whether or not she made any efforts to determine whether her conclusions were correct, and, if she did, whether or not she acted upon the knowledge she had thus obtained, by calling other physicians, and having the dislocation complained of in the case reduced." But this instruction, the Supreme court holds, was properly refused, because it required the patient to determine whether the physician attending her was giving her injury necessary treatment. She had the right to rely upon his professions of skill as a physician, without calling others in to determine whether he really possessed it or not, and she was not bound to call other physicians unless she was fully aware that he had not been and was not properly treating her injury. Besides, the court makes the point that the physician himself said that his treatment was the usual treatment in such cases, and that the evidence conclusively showed that the patient was assured by him that he had reduced the dislocation, and that she was receiving approved treatment. There being a conflict in the evidence on all material questions affecting the right to recover damages, including the want of care on the part of the patient, the court says that, under the well-established rule in such cases, it can not disturb the verdict rendered in favor of the party suing, and so it affirms a judgment thereon against the physician sued.

Specialist Allowed His Bill for "First" Treatment.—In the case of Williams vs. the Griffin Wheel Company, an action brought by a physican and surgeon against a corporation, for services rendered as an eye specialist to an employe of the company who had been injured while at work for it, the Supreme Court of Minnesota affirms an order denying the company a new trial after judgment was obtained against it. The physician suing did not receive instructions or authority to render the services directly from the company, but through another physician, who was authorized to employ a specialist on this particular occasion for "first" or primary treatment. The company declined to pay the bill on the ground that the value of services other than those authorized—that is, further or subsequent services—was included. The case was tried by a jury, and the court is of the opinion that there was evidence which warranted a finding that the services for which compensation was claimed were, under the peculiar circumstances of the case, first or primary, and that no part thereof could be called further or subsequent services, although the testimony as to what could properly be designated first or primary services in such a case—a very severe injury to the eye—was very meager, and was all given by the physician suing. Objection having been made to his being asked a question which called for his opinion or conclusion as to the party for whom and on whose faith and credit he rendered the services, the court holds that the objection should have been sustained. It says that his opinion or belief that the faith and credit of the corporation were pledged for the payment of his bill, and that it was responsible for the same, was not proof that the liability existed. The conclusion that it did was to be deduced from what transpired between the parties and upon the facts as to the employment, not what he thought or believed. But the testimony as to the company's liability for first or primary services subsequently becoming practically conclusive, the court holds that the overruling of the objection was error without prejudice. The court adds that there was no testimony that the first or primary services in this case did not exceed $15 or $20 in value, as argued by counsel; that the other physician referred to, who testified that he was not qualified to say what "first" services were in such a case, went no further than to testify as to the value of the services performed the first day by the physician suing.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, November 23.

1 *On the Advantages of a Trace of Albumin and a Few Tube Casts in the Urine of Certain Men Above 50 Years of Age. William Osler.
2 Modification in the Methods of Operative Surgery Resulting from Laboratory Research. Joseph D. Bryant.
3 *Vesical Emergencies; Their Surgical Management. Eugene Fuller.
4 Leucoplakia. John V. Shoemaker.
5 Pelvic Inflammation in the Female: Its Diagnosis and Management by the General Practitioner. Abram Brothers.
6 Cyst of the Appendix Vermiformis. William C. Wood.

Boston Medical and Surgical Journal, November 21.

7 *An Investigation of the Boston Ice Supply. Hibbert W. Hill.
8 *Lesions of the Bladder During Abdominal and Vaginal Hysterectomy. Charles G. Cumston.
9 *Suggestions for the Improvement of Training Schools for Nurses. Richard C. Cabot.
10 Some Deductions Concerning Milk Modification. R. C. MacDonald.

American Medicine (Philadelphia), November 23.

11 *Experimental Yellow Fever at the Inoculation Station of the Sanitary Department of Havana, with a View to Producing Immunization. John Guiteras.
12 A Case of Perforating Typhoid Ulcer; Laparotomy; Recovery. Wm. L. Rodman.
13 *A New Constituent of Bone. William J. Gies.
14 *Ovarian Pregnancy: Is It an Explanation of Ovarian Hematomas? N. Stone Scott.
15 Suggestions Concerning the Use of the Metric System in Prescription Writing. Francis P. Morgan.
16 *Annular Pancreas. Theo. Tieken.
17 *Epidemic Meningitis—The History of an Outbreak. James McKenty.

Philadelphia Medical Journal, November 23.

18 Historical Note on Smallpox. James Tyson.
19 *The Characteristics of Genuine Vaccinia; Experience with Glycerinated Lymph and Some Statistics of the Present Smallpox Epidemic. William M. Welch and Jay F. Schamberg.
20 Prophylaxis of Smallpox in Cities. Richard A. Cleemann.
21 *Technique of Vaccination. Frederick A. Packard.
22 Notes on the Smallpox Eruption, Its Clinical Features and Differential Diagnosis. William T. Corlett.
23 *Some Experiences with Blood Examinations. John B. Deaver and Edward K. Moore.
24 *The Supraorbital Reflex in Facial Paralysis. Joseph Sailer.
25 *The Present Status of the Bottini Operation as a Method of Treatment in Obstructive Hypertrophy of the Prostate Gland, Derived from a Summary of 888 Operations by 48 Operators. (Continued.) Orville Horwitz.
26 The Surgery of Pulmonary Abscess, Gangrene and Bronchiectases Following Pneumonia. (Concluded.) Daniel N. Eisendrath.

Medical News (N. Y.), November 23.

27 *Traumatic Stricture of the Esophagus. F. E. Bunts.
28 *"What Is the Use of Making a Diagnosis in Nervous Diseases, Since Nothing Can Be Done Anyway? Theodore Diller.
29 A Preliminary Note on the Sterilization of Catheters: A Bacteriological Study. C. B. Nancrede and W. H. Hutchings.
30 *Hygiene and Hygienic Legislation. W. Scheppegrell.
31 *On Primary Sarcoma of the Liver; Critical Observation and Contribution of Two New Cases. Bindo De Vecchi and Guido Guerrini.
32 Note Upon a Case of Pretended Expectoration of Myriapods. Allen J. Smith.

Medical Record (N. Y.), November 23.

33 *Is Rabies a Specific Disease? D. E. Salmon.
34 *Some Facts Learned in the Management of Typhoid Fever in Central West Virginia. W. W. Golden.
35 *Rupture of Urethra; Report of Cases. James R. Hayden.
36 Operation for Caries of the Mastoid Secondary Opening of the Lateral Sinus, and Ligation of the Internal Jugular Vein. Julius Rosenstirn.
37 *The Value of the Widal Reaction in the Diagnosis of Typhoid Fever in Children. Milton Gershel.
38 A Case of Actinomycosis. Leonard Weber.
39 A Case of Multiple Unilateral Cranial Nerve Paralysis. Philip King Brown.
40 Hallucination of Snakes. W. Moser.

41 A Personal Experience with Mushroom Poisoning. E. A. Blount.
42 Case of Torsion of the Spermatic Cord. A. B. Atherton.

Cincinnati Lancet-Clinic, November 23.

43 *Some Anomalies of the Uterus. B. Merrill Ricketts.
44 *Some Causes and Remedies for Ignored Syphilis. M. L. Heidingsfeld.

St. Louis Medical Review, November 23.

45 Report of the Commission Appointed to Investigate the Cases of Tetanus in St. Louis, Following the Administration of Diphtheria Antitoxin. B. Meade Bolton, C. Fisch, and E. C. Walden.

Virginia Medical Semi-Monthly (Richmond), November 8.

46 *Presidential Address Before the Medical Society of Virginia. J. R. Gildersleeve.
47 *Delusions in Medicine. S. W. Dickinson.
48 *Past, Present and Future of Cancer. Stuart McGuire.

Annals of Gynecology and Pediatry (Boston), November.

49 Treatment of Extrauterine Pregnancy, with Cases. Francis D. Donoghue.
50 Early Prophylaxis in Obstetrics. William A. Howe.
51 Chronic Lacerations of the Perineum. J. G. Carpenter.
52 Hygienic Measures in the Treatment of the Catarrhal Diseases of the Upper Air-Tract in Children. Carolus M. Cobb.

The Post-Graduate (N. Y.), November.

53 The Treatment of Chronic Purulent Inflammation of the Middle Ear. James F. McKernon.
54 On the Home Treatment of Pulmonary Tuberculosis. Leonard Weber.
55 Clinical Bacteriology. Hermann Lenhattz.
56 Report of Clinic. Drs. Stubbert and Lloyd.
57 Notes from the Clinics. Dr. Lusk.

Journal of Mental Pathology (N. Y.), November.

58 *On the Prophylaxis and Treatment of the Recidivist Criminal. Jul. Morel.
59 *The Regicides. E. Regis.
60 Acute Delirium. B. I. Semidalow and V. V. Veidengammer.
61 On the Duty of the State in the Matter of the Prevention of the Birth of Crime and of Its Propagation. Louise G. Robinovitch.

Clinical Review (Chicago), December.

62 Umbilical Hernia; Varicocele; Lymphangioma; Lateral Curvature of the Spine; Extensive Hypertrophy of the Connective Tissue; Monarticular Inflammation of the Knee-Joint; Ulceration of the Tongue; Synovial Tuberculosis of the Knee-Joint; Sprain of Lumbar Muscles; Dislocation of the Shoulder Joint; Relapsing Appendicitis. N. Senn.
63 Some Observations on the Treatment of Lobar Pneumonia. W. H. Washburn.
64 Clinical Lectures Upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Journal of Medical Research (Boston), November.

65 Upon the Occurrence of Oxyphenylethylamin in Pancreatic Digestion. R. L. Emerson.
66 *Metabolism in Diabetic Coma, with Especial Reference to Acid Intoxication. Elliott P. Joslin.
67 *The Diagnosis of Glanders by the Strauss Method. Langdon Frothingham.
68 Flagella Staining with Night Blue. Letchworth Smith.
69 Four Cases of Acute Hemorrhagic Meningo-myelitis in Cocker Spaniels, with More Remarks on the Etiology of Myelitis. Philip King Brown and Wm. Ophuls.
70 Composition of Zygadenus Frumenth and Zygadenus Venenosus. M. Vejux-Tyrode.
71 *Degeneration of the Islands of Langerhans of the Pancreas in Diabetes Mellitus. James H. Wright and Elliott P. Joslin.
72 Nature of the Fats and Allied Bodies in Chylous Urine. A. E. Austin.

Richmond Journal of Practice, October.

73 The Mosquito. Ennion G. Williams.
74 How to Prevent the Spread of Contagious Diseases. Edward M. Magruder and Lyman Skeen.
75 Questions and Answers Regarding Syphilis.

Journal of Mental and Nervous Diseases (Nyack, N. Y.), November.

76 *The Separate Localization in the Cortex and Subcortex of the Cerebrum of the Representation of Movements and of Muscular and Cutaneous Sensibility. Charles K. Mills.
77 On Certain Studies with the Ergograph. August Hoch.
78 *The Stadia of Mental Disease. Theodore H. Kellogg.

Medical and Surgical Monitor (Indianapolis), November 15.

79 Some Surgery of the Kidney. J. H. Carstens.
80 A Study in the Evolution and Psychology of Sex. N. E. Aronstam.

Therapeutic Gazette (Detroit, Mich.), November 15.

81 Irritable Senile Urination and Its Treatment—A Clinical Lecture. John H. Brinton.
82 A Statistical Study of Venereal Diseases Taken from the Case-books of the Genito-urinary Dispensary of the University Hospital. H. M. Christian.
83 *Treatment of Rheumatism and Allied Disorders. D. K. Coverley.
84 *The Use of Veratrum Viride in Pneumonia. T. G. Stephens.
85 *Appendicitis, with Special Reference to Diagnosis and Treatment. W. H. Mitchell.

New Yorker Medicinische Monatsschrift, October.

86 *Bericht über einen Fall von Raupenhaar-Entzündung des Auges. R. Denig.
86½ Ueber Puerperalfieber. L. A. Ewald.
87 Myelogene Leucaemie mit Lungen-, Larynx-, und Pharynx-Tuberculose. Arnold Sturmdorf.

Peoria Medical Journal, November.

88 General Practitioner and Specialist. R. E. Lewis.
89 Bony Union in Intracapsular Fracture of Neck of Femur—Report of Cases and Presentation of Specimen. E. B. Montgomery.

American Journal of Surgery and Gynecology, November.

90 Woman's Hospital Reports. Emory Lanphear.
91 *A Résumé of the Latest Literature on Tuberculosis of the Peritoneum. Wallace Neff.
92 Syphilis and the General Practitioner. O. L. Suggett.

Medical Times and Register (Philadelphia), November.

93 Endometritis. F. R. Burnham.
94 Beta-eucain as an Anesthetic. John Moir.
95 A Clinical Report of Gude's Pepto-mangan. Samuel Wolfe.
96 Gout and Rheumatism. W. H. Walling.

Memphis Medical Monthly, November.

97 *On the Occurrence of Leucocytosis and So-called Dust Granules in Continued Malarial Fevers and Malarial Cachexia. Wm. Krauss.
98 Shall We Make a Diagnosis of Tuberculosis Known to the Patient? Llewellyn P. Barbour.
99 Narcotics in Pediatrics. Wm. Britt Burns.
100 Concerning a Fulminating Form of Phlegmon of the Pharynx and Larynx. C. Hodlmoser.
101 Typhoid Fever and Its Treatment. G. C. Morris.
102 Unique Case of Renal Calculi. R. J. Heald.

American Journal of Obstetrics (N. Y.), November.

103 *Indications, Technique, and Remote Results of Salpingostomy and of Resection and Ignipuncture of Ovaries; with Records of 104 Cases. A. Goldspohn.
104 *Report of a Case of Acute Pancreatitis and Fat Necrosis. Edward J. Ill.
105 *Some Observations on the Surgery of the Spleen. Lewis S McMurtry.
106 Indications for the Combined Vagino-abdominal Operation for Hysterectomy. Rufus B. Hall.
107 *Gallstone in the Common Duct. L. H. Dunning.
108 Some Forms of Disease Involving the Uterine Appendages Augustus P. Clarke.
109 Management of Face Presentations. Magnus A. Tate.
110 *Retrodisplacements of the Uterus in Young Girls and Unmarried Women—Their Frequency and Best Methods of Treatment. Herman E. Hayd.
111 *The Mechanical or Combined Plastic and Mechanical Treatment of Retrodeviations of the Womb. Marcus Rosenwasser.
112 A Report of Ten Cases of Cesarean Section performed at St. Michael's and St. Barnabas' Hospitals of Newark, N. J. Charles L. Ill.
113 *Diseases and Injuries of the Cervix Uteri and Their Treatment. J. W. Hyde.
114 *Personal Experience with Uterine Fibromyomata. Henry D. Ingraham.
115 Some Rare and Odd Cases and Experiences in Pelvic and Abdominal Surgery; the Lessons They Teach. C. C. Frederick.
116 *Early Operations in Appendicitis, and Method. Joseph Price.
117 *Sarcoma of the Breast. Edwin Ricketts.
118 *Cornual Pregnancy; Rupture in the Fourth Month; Operation; Recovery; Remarks. Miles F. Porter.
119 *An Interesting Case of Tubo-abdominal Pregnancy. William H. Humiston.
120 Tubal Pregnancy; Case Operated in the Eighth Week, Immediately Before the Occurrence of Rupture. Marcus Rosenwasser.
121 *Galvanism as a Remedy for Uterine Hemorrhage. Edwin Walker.

Iowa Medical Journal (Des Moines), November 15.

122 Medical History of the 49th Iowa Volunteer Infantry. J. Fred Clark.
123 *Impoverished Blood and Its Relation to Insanity. J. W. Wherry.

124 Acute Intestinal Obstruction. D. C. Brockman.
125 Adrenalin in Uterine Hemorrhage. Edward Hornibrook.

Medical Summary (Philadelphia), November.

126 The Home Treatment of Nasal Catarrh. (Continued.) Edwin Pynchon.
127 Typhoid and Typho-malarial Fevers. A. J. Mann.
128 About "Typho-malarial" Fever and a Hint as to Amenorrhea. Geo. H. Candler.
129 The Modern Treatment of Syphilis. M. Shellenberg.
130 On the Significance of Symptoms and Signs in Disease. Thomas H. Manley.
131 Scarlet Fever. M. G. Price.
132 Hydrophobia: Its Symptoms, Treatment, Etc. (Continued.) Wm. Alexander Armstrong.
133 For Wounds with Sanious Discharges, Fetor of Ulcers, Cancers, Etc. Wm. A. Armstrong.

Oklahoma Medical News (Oklahoma City), November.

134 Talipes. L. A. Riely.
135 A Few Remarks About Vesico-vaginal Fistulæ. Arch D. Jones.
136 A Few Remarks on the General Practitioner Concerning the Teeth. Wilhelmina Short.
137 Laparotomy. W. E. Dicken.
138 Christian Science. Delos Walker.
139 *A Clinical Stury of Potassium Bicarbonate in the Treatment of the First Stage of Lobar Pneumonia. Ira B. Bartle.
140 The Etiology of Paretic Dementia. Frank P. Norbury.

AMERICAN.

1. **Albumin in the Urine.**—Osler shows that a minute quantity of albumin in the urine with a few casts is not necessarily a matter of serious import. They are danger signals which may be of use in guiding the patient to better methods of living and, therefore, their occurrence indirectly serves to prolong his life. The points on which one should lay special stress as indicative of serious disease are: 1. Persistent low specific gravity of the urine, 1008 to 1012. 2. The condition of the heart and arteries—marked sclerosis of the peripheral arteries, with the apex-beat of the heart an inch or two outside the nipple line, and a ringing and a highly accentuated aortic second sound. 3. The presence of albuminuric retinitis. A trace of albumin and a few tube casts are simply warning to the engineer to go slow, for the pace is too rapid for the state of the track.

3. **Vesical Emergencies.**—The methods of meeting conditions of urinary retention are especially noted by Fuller, who advises as regards the use of the catheter, the filiform bougie, etc. A soft rubber catheter can never produce harmful trauma, but the hard metal instruments can do so and are never recommended for constant use by any progressive physician. Where prostatic obstruction is so great as to require this instrument, a prompt resort to radical surgery should be insisted on. As regards the perineal incision, which is usually chosen, he warns against the too short incision and gives the details of the methods of managing cases of retention due to stricture complicated by extravasation and perineal gangrene, which have already been published by him in his work. Where prostatic obstruction occurs in cases not amenable to catheterization, prostatectomy should be immediately performed.

4. **The Boston Ice Supply.**—This article gives a review of the various sources of the ice supply of the city of Boston, including artificial ice, and their bacteriologic and other possibilities. Hill sums up by saying that, on theoretical grounds, the danger of infection through ice, either natural or artificial, is almost *nil*. There is but one presumably authentic case on record of transmission of typhoid fever through ice. In this country but one case has been attributed to ice, and in this the evidence was indefinite. Snow ice apparently contains a large number of bacteria, but clear ice is much less contaminated. Artificial ice may contain near its center or bottom about as many bacteria as the average natural ice, but the bacteria present, excepting in very rare instances, are practically harmless. Dirt is found in both natural and artificial ice, usually more abundant in the former.

8. **Wounds of the Bladder.**—The accident of wounding the bladder is rare. Cumston has had but one case in 300 abdominal sections and one out of 74 cases of vaginal hysterectomy. The cases are reported and in neither was the result bad. The anatomy of the parts is carefully described, and the abnormalities, especially displacements, compressions, etc., of the bladder by tumors are detailed. The technique of the treatment of the bladder injury is given according to the various authorities. The author's method is as follows: Two layers of sutures are employed, the first of which includes the mucous membrane alone; for this fine catgut should be used. The second and superficial layer of sutures includes the muscle. If the bladder is deeply seated, and if the abdominal walls are very thick, the mucous membrane may first be united by interrupted sutures of fine catgut, but if the wound in the bladder is easily accessible, a running suture is to be preferred. As to the superficial suture, it should always be done with a running Lembert's suture. In some cases, especially if the wound in the bladder is a long one, these two layers of sutures may be reinforced by a third layer of Lembert's suture. This method has two advantages: In the first place the mucous membrane is brought into better apposition and it is easy to understand that these two layers of suture would more completely occlude the opening than the technique recommended by Guyon and others. The drainage of the bladder can be accomplished by free urethral drainage or directly from the ureters, and he thinks that in cases of very large openings into the bladder made occasionally during operation, permanent catheterization of the ureters might possibly be of value. As ordinarily practiced permanent drainage of the bladder is usually employed, and he suggests care in choosing of the catheter, the precautions to be employed and the duration of the drainage. He would change every four or five hours in the female, but if we desire to use permanent catheterization the Pezzer instrument is about the best. When the permanent catheter is used and not changed, it usually becomes occluded by salts, and if the Pezzer sound has been used it is better to use the ordinary catheter after its removal rather than to reendeavor to introduce another instrument of the same description. He has found that after suture of the bladder following suprapubic cystotomy, five or six days' drainage is usually enough, but others have advised a longer period. If the sound should be left without removal for a week or ten days, it is better to use intravesical injections of 1 in 2000 solution of either lactic acid or phosphoric acid every other day to prevent the deposit of urinary salts. He thinks permanent drainage is necessary to prevent distension of the organ, and to allow solid union of the wound. If septic complications should occur, the abdomen should be opened, and thorough irrigation with saline solution and the permanent catheter should be carefully watched to see that the drainage is perfect.

9. **Nurses' Training Schools.**—Cabot suggests putting nurses' training schools on a sound basis, the students helping to pay the salaries of paid instructors. Nursing should be taught by nurses, medicine by physicians. The preparation for private nurses should be in private families and by private nurses. There should be a better balanced curriculum containing liberal as well as purely technical studies.

11. **Yellow Fever.**—An account of the experimental work with yellow fever by inoculations for immunization is given by Guiteras with details of cases, temperature charts, etc. The result was that the cases thus produced were not found to be invariably mild, as a history of the experiments has shown. The charts that are published give us facts in regard to the early stages of the disease which were not previously known, but Dr. Guiteras thinks the cases are the average ordinary yellow fever cases. While the object of the experiments was not to confirm the mosquito theory it nevertheless is useful for this end, as it shows that all forms of yellow fever from the mild to the severe, hemorrhagic, uremic, etc., can be produced, which is opposed to the belief that there must be some other means of communication. They also seem to show the exclusive rôle of the Stegomyia and the innocuousness of fomites.

13. **New Substance in Bone.**—The constituent discovered

by Gies—the osseomucoid—is apparently the same as the mucoid in tendon cartilages and other connective tissue. It shows that ordinary compact bone like other forms of connective tissue contains the mucin substance and also, contrary to Young's deduction, that in the process of ossification the connective tissue matrix is not completely removed. It also makes it easier to understand the accumulation of mucin in various pathologic forms in osseous tissue shown by numerous observers in recent years.

14. **Ovarian Pregnancy.**—The literature as regards ovarian pregnancy is discussed by Scott, who suggests the possibility of ovarian hematomas being thus produced. A case is reported with careful macroscopic and microscopic examination and he sums up as follows: Hematomas of the ovary are comparatively common, and we have no explanation for their occurrence. Ovarian pregnancy is a proven possibility. Continued development of the ovum in ovarian pregnancy causes changes in the organs and tissues such as to render the demonstration of its ovarian origin impossible. The most natural consequence of the early death of the ovum in ovarian pregnancy is its gradual transformation into an ovarian cystic tumor, added to this retrograde changes obscure its origin, and a hematoma is the final result.

16. **Annular Pancreas.**—Abnormalities in the anatomy of the pancreas are discussed by Tieken, who describes the varieties and reports a case. As regards the genesis of annular pancreas the following is suggested: If the ventral and dorsal diverticula did not unite as they normally do, but develop independently, there would be pancreatic tissue on either side of the intestine, and as growth proceeded the bowel soon would be completely surrounded by glandular tissue. In the semi-annular type, the condition might be due to an overdevelopment of the head, which sends out processes, partially surrounding the bowel; if this hypertrophy should continue until the processes meet on opposite sides of the duodenum, there would be a true annular pancreas, and there is no reason why this could not occur. Some of these malformations can not be detected during life and do not produce pathologic conditions of a serious nature. Accessory pancreas may be a factor in the production of deviations of the intestines or may become the seat of tumor formation, and the semi-annular type, according to Genersich, is of some practical importance on account of the possibility of its producing duodenal constriction. The annular pancreas, however, is capable of producing conditions which may become of great importance, as shown in the case reported here, where obstruction of the bowel was marked, and led to great dilatation of the duodenum. After the obstruction has become a little more pronounced it is easy to see the consequences that might result. If tumor should develop in the head of the pancreas, there will be early stenosis of the bowel and probably occlusion of the bile ducts as well, and this might lead to a suspicion of hour-glass contraction of the stomach. The accumulation and decomposition of food in the duodenal sacculation is another possibility which might produce serious results. Tieken concludes by saying that annular pancreas is of interest from a practical as well as from a pathologic standpoint, and should be taken into consideration in all obscure cases of tumors and obstruction at or near the pancreas.

17.—See abstract in THE JOURNAL of September 14, p. 711.

19. **Genuine Vaccinia.**—The characteristics of genuine vaccinia in its typical form are first given by Welch and Schamberg, who ask what constitutes successful revaccination. They think that in many cases it may be modified decidedly from the earlier form, but there are certain false vaccinia conditions which claim attention. The raspberry excrescence is one and is utterly devoid of protective power. The authors' experience with the glycerinated lymph has been favorable and they see no reason why it should not be relied on. It is possible that there may have been a difference of quality in the products from various sources giving reason for unfavorable results that have been reported by certain authors. The fault is mainly in the preparation of the glycerinated lymph. The whole lesion is curetted, bringing away lymph, vesical walls and broken-down tissue. He thinks the unpleasant results sometimes observed from the use of this form of vaccine matter may be due to the method by which it is obtained. In cases of infants, if there is no smallpox about, we can wait until the age of three months, but during an epidemic no age is a contra-indication to the performance of vaccination, nor are other diseases a contra-indication. If the child is successfully vaccinated in infancy and again at the age of puberty, the immunity will probably be permanent, though infection is common enough to warrant revaccination whenever smallpox is epidemic. The quality of the vaccine is far more important in their opinion than the quantity. Therefore, one good vaccination cicatrix should be as efficient as several.

21. **The Technique of Vaccination.**—Packard is also a believer in the glycerinated vaccine. He notices the importance of sterilization and prefers a scarificator for the reason that it would be likely to be used for this alone. He has been in the habit of using a point just below the head of the fibula when he does not vaccinate on the arm. The only thing that would make him vaccinate elsewhere would be varicose veins at his point of preference. The advantage of this location is that it is subject to less friction and, therefore, safer from contamination. He also favors the use of shields. The celluloid shield allows the patient to inspect his arm and derive more or less amusement therefrom, and also permits the radiation of heat and avoids the poulticing effect. He removes the shield as soon as a specific local lesion has been produced and has the arm dressed either with boracic acid or aristol, one dram to the ounce of ointment. In spite of all care, some arms will be sore and in cases where there is a surrounding edema or cellulitis he thinks the rational treatment is to surround the arm with an antiseptic pad of gauze soaked in 1 to 3000 bichlorid of mercury solution. Another point of great importance is proper judgment whether or not the vaccination has been successful.

23. **Blood Examinations.**—Deaver and Moore's experience covers the subject of parasites, serum, hemoglobin and blood count examinations. They find it sometimes difficult to detect the malarial parasite soon enough to get a prime diagnosis, especially in the irregular and atypical cases and a single negative examination can not be considered decisive. There is very little direct benefit derived from cultures taken from the blood in bacteremia, and in suspected malignant endocarditis the results have usually been negative. They are opposed to disturbing or painful examinations that do not promise positive benefit. The sources of error in the Widal reaction are noted and they call attention to the fact of its occurrence in tuberculosis and also for years after typhoid fever. The positive Widal is never of very much value to the surgeon, however it may be to the physican. They are not in a position to judge of the negative serum reaction in various infections such as tropical dysentery, colon, paracolon, proteus, etc. They are also skeptical as to gelatin and calcium chlorid in preventing hemorrhage. Sugar in the blood is more a matter of curiosity than of value. Justi's hemoglobin test for syphilis has proven very satisfactory in the cases where used. In doubtful cases it is well worth a trial. They do not consider any low percentage of hemoglobin a positive contra-indication to surgery in active suppurative conditions or after hemorrhages. The erythrocyte count, as an index of resistance, is of value and is as well a guide to the severity of the affection. Leucocytosis is both the most valuable and most disappointing part of the subject of these blood examinations. Their experience with the leucocyte count is given in a paper published in the *Philadelphia Medical Journal*, June 1, 1901, and they say that, though at times it is very valuable, it is often very disappointing. In conclusion, they object to the unfounded claims that have been made for the procedure, and deplore unfortunate results that may follow misapprehensions from such statements.

24. **Supraorbital Reflex.**—This reflex, which consists of a slight but distinct contraction of the orbicularis palpebrarum

when the supraorbital nerve or its branches is struck a slight blow, is noticed by Sailer, who thinks it is a true sensory motor reflex. It may in certain cases extend to other muscles at a considerable distance from the supraorbital nerve.

25. **Bottini Operation.**—In this continuation of Horwitz's article in this number, he claims that the value of the Bottini operation as a prophylactic measure is based on an experience of 14 patients on whom he operated between the ages of 49 and 61 when they were just beginning to suffer from the effects of prostatic obstruction. In each case the operation was successful and the effects have been permanent. A number of cases are reported showing the good results.

27. **Traumatic Stricture of the Esophagus.**—The treatment of this condition is discussed by Bunts, who calls attention to the value of its diagnosis and its frequency due to the drinking of lye by children. The prognosis depends on the extent of injury of the mucosa and the rapidity of contraction. Most cases pursue an unfavorable course. He has treated eight cases from this cause and has devised a set of double-bulbed olive-shaped bougies which have given him much satisfaction. The bougie has an upper bulb a size larger than that of the lower. This enables one to follow the advantage gained by the passage of the first by the immediate passage of one a size larger. He speaks of the necessity of great gentleness and care in the use of these bougies. On inserting it is best to have the patient sit upright, in a straight-backed chair, the head thrown back somewhat, in order to straighten the line of introduction of the bougie. Instead of passing it directly back in the median line, it is probably better to pass it into the pyriform sinus at the side of the larynx, which affords a funnel-like aperture that will allow the bougie to slide into the esophagus without encountering the bodies of the cervical vertebræ or the cricoid cartilage. Force should never be employed. The cases are reported in detail. He thinks the use of his method will, in many cases, render the performance of gastro-enterostomy and retrograde dilatation unnecessary even in the most serious cases.

28. **Diagnosis in Nervous Diseases.**—The value of a correct diagnosis in many of the nervous diseases as a guide in the conduct of the physician, avoidance of needless expense to the patient, etc., is noted by Diller. He reports instances of tabes and paresis where an early diagnosis saved much trouble. Many nervous diseases, moreover, are curable and an early diagnosis is of importance.

30. **Hygienic Legislation.**—Scheppegrell's article is a history of a contest between him and the local authorities in New Orleans and, as the result, the passage of an antispitting ordinance over the mayor's veto.

31. **Primary Hepatic Sarcoma.**—According to De Vecchi and Guerrini the cases of primary sarcoma of the liver reported are so numerous that probably many of them are wrongly diagnosed. After reviewing critically 45 cases they come to the conclusion that the majority of these should be excluded from the list of primary tumors, and the following is the statement of their results: Ten cases which are reported probably are not sarcoma; namely, the cases of Naunyn, Lancereaux, West, Roberts, Lee, Pepper, Koltmann, Tooth, Hall, White, Maisenbach and Henschen. The case of Naunyn probably is one of proliferation of Glisson's capsule; that of Lancereaux one of fibroma; West's case is very doubtful, and Roberts' probably a fungous hematode; the cases of Lee, Pepper, Koltmann and White are carcinomata; Tooth's case is a leucemic or a tubercular lesion, Maisenbach's a myxoma and Henschen's a cystic telangiectatic carcinoma. Seven other cases must probably be excluded also, namely, those of Frerichs, Wagner, Block, Ledue, Pellacani, Parker and Burnett, since sarcomatous nodules were found in other parts of the body, to-wit, in the skin, intestines, eyes, spinal cord, etc. Eight further cases (Warren, Warshawski, Hutyra, McKee, Axtell, Knoch, Krasnobajew) they have not been able to investigate thoroughly; probably some of these would also have to be excluded. They report two cases of primary sarcoma which came under their observation in which they considered the neoplastic tendency to be attributable to a preceding cirrhosis.

33. **Rabies.**—Salmon's paper is a discussion and convincing analysis of the statistics, combating the statements of Dulles and others who argue that hydrophobia does not exist.

34. **Typhoid Fever.**—Golden gives certain particular points derived from his experience with typhoid in West Virginia. The course is usually atypical, and constipation is more common than diarrhea. An unduly high temperature at the beginning is frequently seen. Relapses are exceedingly common under the best management. The mortality is small, not exceeding 6 per cent. He notices certain houses which in spite of re-adjustment of water supply, plumbing, etc., seemed to be infected with typhoid. He holds to the milk diet. In cases where he has varied from it or seen it varied, he thinks the results have been bad. In cases of well-nourished patients with high temperature, he would keep them down even to a pint of milk a day with plenty of water and very small doses of alcohol frequently administered. Abortive cases he has learned to disbelieve in. Tympanites is usually controlled by diet, but an enema of saponified water, holding in emulsion 1 dram of oil of turpentine, will usually control it and he makes this a routine treatment. Of internal antiseptics he has faith in thymol, but the Woodbridge treatment is generally condemned in his section.

35. **Rupture of the Urethra.**—After reporting three cases, Hayden says that treatment is operative or non-operative according to the nature and extent of injury which, as a rule, can be readily ascertained by a careful study of local conditions: If there is marked hemorrhage from the meatus with a complete retention of urine, or difficult and painful urination and bloody urine, associated with difficulty or inability to enter the bladder with instruments; and, also, if there is a fluctuating perineal tumor, with perhaps a rise of temperature, then immediate perineal section and bladder drainage are indicated. If, on the other hand, hemorrhage is slight, urination free, but somewhat painful, the urine tinged with blood, or containing light bloody flakes, and catheterization normal, except perhaps causing some pain at a localized spot, which feels slightly roughened or thickened, and little or no perineal tumefaction, then catheterization, irrigation, and urinary antiseptics should be resorted to, the patient in the meantime being kept in bed, and carefully watched for the first sign of urinary extravasation, in the event of which external urethrotomy with vesical drainage should be immediately resorted to. Partial suture of the urethra must always be employed in case of complete rupture, in which the divided ends of the canal are widely separated; otherwise it is not essential. Complete suture of the damaged canal is, in the writer's opinion, contra-indicated, as it prohibits the free bladder and urethral drainage, which is so essential for the contused and infiltrated condition of the tissues in these cases.

37. **Value of the Widal Reaction.**—The following are the conclusions of Gershel's article: 1. The main facts concerning the Widal reaction in children are the same as those that hold true for adults. 2. In 84 cases of typhoid fever in children, ranging from one and a half to fourteen years of age, 81 cases gave a positive result. 3. In 115 cases that were fevers other than typhoid, the positive reaction was never obtained. 4. The reaction did not occur later in children than in adults, as is claimed by some writers, but on the other hand, somewhat earlier. However, too much stress on this point should not be laid. 5. The Widal test is of greater importance in children than in adults, owing to the frequent atypical character of the disease in the former, and the greater frequency of cases resembling pneumonia and meningitis. 6. As pointed out by Morse, the reaction will be of service in establishing the frequency of typhoid fever in children.

43. **Uterine Anomalies.**—The anomalies of the uterus bicornis, uterus didelphys bipartitus, etc., with their consequences and possibilities are described by Ricketts, who reports a case of double uterus and one of uterus rudimentarius

bicornis of his own observation. He gives in conclusion an extensive bibliography of the subject.

44. **Ignored Syphilis.**—Heidingsfeld reports his observations on this point in 21 cases out of 134 in which the patients denied any previous infection whatever. He thinks that in many cases it was due to the negative character of the history; patients are sometimes very slow in making admissions. In other cases the disease must have been recognized and there are still other cases where there had been a faulty diagnosis made. He insists on the importance of thorough diagnosis in every case and in the distrust of negative history in some instances. In many of the cases, too, there is extra-genital infection which also plays a part in the causation.

46. **Medical Education.**—This address by Gildersleeve reviews the subject of medical education, medical ethics, corporation practice, organization of the profession, reciprocity between the states, etc.

47. **Delusions in Medicine.**—Dickinson's article is an interesting review of the various medical superstitions that have existed, from early fetichism and enchantments down to christian science and osteopathy. He does not believe in the materialistic tendencies of modern medicine as the cause of the present growth of these delusions, but rather that they are proof of medical advancement. These frauds take up cast-off ideas and distort them. When public faith is lost in them they will have to revolutionize their systems to meet the changed conditions.

48. **Cancer.**—McGuire reviews cancer, its causation, pathology, etc., as to the various theories of the same, and holds that there is very little possible good in any treatment except by early and correct diagnosis and thorough operative measures.

58. **The Recidivist Criminal.**—The questions of heredity, environment, etc., of the criminal are discussed by Morel, who says in conclusion: "1. For the benefit of public health, the government should care for the young degenerates and take them away from the evil influence of their parents. 2. When these degenerates attract attention by their acts or conduct, they should be investigated and reported on officially, as well as professionally. 3. As far as possible, they should be placed in medico-pedagogic institutes directed by competent authorities. 4. Parents should have the privilege of placing in medico-pedagogic institutes children whose low intellects require special care; the children should be cared for up to the age of 18 years. 5. The question of vengeance should give way to that of ameliorating the condition of the offenders. The degenerate can not be held responsible, but should be cared for by society."

59. **The Regicides.**—Regis goes over the history of numerous assassins of prominent individuals, whom he divides into two categories: 1. Those suffering from a special form of insanity haunted by the idea that they have suffered a special injury for which they seek reparation. 2. Those who make attempts on persons under the influence of some variety of insanity are not cognizant as to their acts. Among the first of these he includes Mariotti, who attempted to assassinate Freycinet; Perrin, who fired a blank cartridge in front of President Carnot's carriage, and others. The true regicides may attempt to kill through religious or political fanaticism and are, in his opinion, always of a mystic temperament misguided by religious or political delusions, think themselves called on to act the part of judge and martyr and kill some great person in the name of God, the country, liberty, or anarchy. The fact that the individuals who survive end in becoming insane is, he thinks, in favor of his view. He believes that they should not be treated as responsible individuals or executed as such.

66. **Diabetic Coma.**—The case reported is offered because of the extreme grade of acidosis; because di-acetic acid was apparently absent for several months before death; because of the various facts which developed in the examination of the urine, stools, vomitus, and contents of the gastro-intestinal tract, relating chiefly to the absorption of sodium bicarbonate, the estimation of urea, the increasing percentage of ammonia, to the total nitrogen excreted, the unusual amount of acetone as compared with B-oxybutyric acid, the diminution of chlorin in the urine and its presence in the feces, and the excessive excretion of potassium. The patient, a boy of 15, improved very remarkably under dietetic diet and the administration of sodium bicarbonate, but died suddenly of a complication possibly due to an irregularity in diet, though its nature is not exactly stated. The case is analyzed with great care and the author thinks it furnished more than the usual amount of evidence to the already accumulated facts showing that diabetic coma is the result of acid intoxication.

67. **Glanders.**—Strauss' method of diagnosis of glanders consists in injecting the suspected bacilli into the abdominal cavity of guinea-pigs, where it produces peculiar suppurative results in the scrotal peritoneum. It has been experimented on by Frothingham, who considers it the most valuable test at our command. The positive test means everything; the negative test nothing, though several negative tests are of great value. He thinks the best results can be obtained when three or four guinea-pigs are used for each test, each pig receiving an injection of from .5 to 1 c.c. of the suspension, a small portion of which usually remains in the subcutaneous tissue, the rest being left in the peritoneal cavity.

71. **Diabetes and Degeneration of the Islands of Langerhans.**—Nine cases of diabetes are reported, in two of which there were marked pathologic changes in the islands of Langerhans which Wright and Joslin consider to be strongly in favor of the hypothesis that lesions of these structures are important factors in the pathology of the disease. Whether marked lesions of the islands of Langerhans will be found to be always associated with glycosuria, as Opie seems to hold, must be determined by further observations.

76. **Separate Localization.**—Mills reiterates his former view of the separate localization in the cortex and subcortex of the movements and of muscular and cutaneous sensibility, not admitting that the Rolandic and adjacent regions are sensori-motor as had been held by Munk, Hitzig, Bastian, Starr, and others. He reviews the evidences as to their functions and states that a separate and extensive sensory zone exists, which includes the gyrus fornicatus, precuneus, and postparietal convolutions, possibly also the hippocampal convolution as held by Ferrier. His arguments are given in detail and he thinks an analysis of the cases which seem to contra-indicate his view will show the incorrectness of the deductions from them. Owing to the fact that motor and sensory regions are co-terminous and frequently overlap, every case should be excluded in which the lesion described extends even for the fragment of an inch outside the particular motor or sensory region specially involved.

78. **Stadia of Mental Disease.**—Kellogg recognizes four stadia in mental disease: the incubatory period; that of active mental disturbance; that of reactive exhaustion, and the convalescent period, all except the third lasting on an average for a number of months. He sums up his paper as follows: "The vast majority of attacks of mental disease have but four simple stadia. The main stadium acutum is constituted chiefly of the maniacal, melancholic, or stuporous states, which are mere symptom-complexes alternating or replacing one another, though sometimes mistaken for separate attacks of insanity. Mental disease must be regarded as one continuous pathologic process with periodic fluctuations, so constant that remissions and intermissions are to be viewed as part of the morbid phenomena. The diversified curricula of insanity and the artificial variety of its forms described by modern writers may in great measure be reduced to clinical simplicity by the law of the stadia, conjoined with the maniacal, melancholic and stuporous states, as here rightly assigned to the position of symptomatic syndromes, rather than independent forms of alienation. In fine and in fact the law of stadium and rhythm and of the dominant states of expansion, depression and stupor are the only stable data

capable of any wide purpose for the logical unifaction of the multiform manifestations of mental disease."

83. **Rheumatism.**—The various drugs that have been tried as specifics for rheumatism—the salicylates, salophen and aspirin—are noticed by Coverley, who finds that the latter is in his opinion the most serviceable anti-rheumatic and anti-neuralgic that we can have in this class of patients. Chemically it is acetyl salicylic acid forming crystals soluble in alcohol and insoluble in water. Its taste is acid and not disagreeable. It remains unchanged in the stomach, giving rise to no irritation but the alkaline media of the intestines; salicylic acid is gradually liberated in the nascent state and its absorption is probably responsible for the efficiency of the drug. Its prompt elimination is readily accounted for by the profuse sweats and increased action of the kidneys with the fall in temperature.

84. **Veratrum Viride.**—This drug is recommended by Stephens in the treatment of pneumonia. Out of 54 cases thus treated he had 50 recoveries. The 4 necessarily fatal cases were in patients of advanced age and under unfavorable constitutional conditions. The preparation that he uses is the Norwood tincture which is most uniform in its action. The veratrum treatment of pneumonia does not require any intricate formula. The medicine can be reduced infinitesimally and given with precision. The reduction of blood pressure should be made gradual and not in excess. Veratrum is contra-indicated in fatty degeneration of the heart, gastritis and peritonitis. He says that we are not often called to see a case of pneumonia during the rigor or algid stage, but usually in the stage of fever. If the patient is seen during the subjective symptoms and the temperature is appreciably elevated during the algid stage, the treatment may commence and the duration of the attack be aborted. He prescribes veratrum with the compound syrup of squills or syrup of tolu and wine of ipecac in the proportion of one to two of the latter, giving ten drops for the beginning dose and increasing as required.

85. **Appendicitis.**—The salient points summarized by Mitchell are as follows: "1. It seems fairly clear that appendicitis should be usually treated as a medical disease, unless suppuration, gangrene, or perforation occur. 2. We are never justified in advising an operation while the appendix is inflamed, just to prevent complications. 3. If accurate diagnosis and skilful medical treatment were applied in every case, these complications would be infrequent and the death-rate greatly diminished. 4. In recurrent appendicitis it is our duty to advise removal of the appendix between attacks. 5. Imagine yourself in your patient's place, and treat him as you would wish to be treated yourself."

86. **Conjunctivitis from Caterpillar Hairs.**—The first account of this cause of ophthalmia was given by Pagenstecher in 1883. Other observers, especially from the Bonn Clinic, have since reported more cases. Natanson is apparently the only previous non-German observer of this cause of conjunctivitis. Denig, after a few remarks, reports a case observed by him in New York. The species of caterpillar was defined by him as that of the "tussock moth," Orgyia pudibunda, but other species are also dangerous, especially what he calls the "procession caterpillar," "bramble caterpillar" and the "Keiferspinner." In the case described there was slight blepharospasm and reddened and swollen conjunctiva of the under lids. The whole extent of the inflamed tissue of the inner lid and the conjunctiva and the connective tissue were strewn with small blackish hairs, which appeared to be encapsuled in small bullæ. These blebs varied from day to day and sometimes were large enough to be seen with the unaided eye. Similar nodular swellings have also been observed in the iris by penetration of the cornea. The inflammation due to this cause is a tedious one, on account of locality a dangerous one, and there is the possibility of hairs getting on the mucous membrane of the throat and respiratory apparatus. As regards therapy he would warn against wiping the eyes, and after cocainization he washes out the eye with an indifferent sterilizing fluid so as to get rid of the larger number of hairs; little bundles can be removed with pincers. A salve should be employed later and cocain applied to relieve the pain.

91. **Peritoneal Tuberculosis.**—Neff offers the following conclusions as a result of a discussion of the literature and a consideration of the subject: "1. Tubercular peritonitis is a surgical disease, and should be treated surgically, not medically, for the simple reason that when treated medically patients die, but when treated surgically a cure is effected in a large proportion of cases, and a marked improvement follows in all. 2. The proper treatment is abdominal section rapidly and carefully performed. 3. Danger from operation is very slight, the mortality being less than 3 per cent. 4. Of the many theories advanced to account for the cure in these cases, the antitoxin theory of Gatti seems to be the most rational. It is not unlikely, however, that the good results attained are due to a combination of several of the various causes assigned. 5. Sepsis is not apt to occur on account of the pathological changes that have taken place in the peritoneum. 6. Tuberculous infection of the wound does not occur. 7. Antiseptics are useless, and drainage should not be employed if it can be avoided, as it is apt to leave a permanent fistula. 8. Most of the deaths after the operation have been due to a general tuberculosis or tuberculosis of some other organ. 9. The successful treatment of this disease depends upon the diagnostic ability, good judgment, technic and skill of the man behind the knife."

97. **Malaria.**—Krauss describes a special form of malarial infection in which he has examined the blood and which shows special symptoms and peculiarities. As opposed to typical malaria, we have a remittent type of fever, a rather indefinite tongue which may be dry and red like typhoid, or white, broad and flabby. In the latter case we have the parasite within the red corpuscles if examination is made at the proper time. The fever is simple and refractory to quinin. It differs from typhoid in the quick invasion, early prostration, sweaty skin, absence of bowel symptoms and eruption, failure to immunize, non-fatality, absence of Widal reaction, hunger instead of anorexia and clear intelligence even in the severest stages. The blood findings are distinct. There is a marked leucocytosis often for days after the suspension of quinin, and the presence of a great number of so-called dust granules. These at first were thought to be embryons, but are too large and behave more like protoplastic substance of the polyleucocyte when we use the polychrome stain. Krauss called attention to these bodies and their relation to the indefinite malarias, about eight years ago, calling them extra-corpuscular parasites on account of the similarity of their staining reaction to that of malarial plasmodia. Shortly after, Müller's hematokonea, which are quite similar to these, appeared in the literature. Krauss suggests the possibility of these continued fevers having a pathology giving the same blood changes to those found in cachexia, and secondly, the similarity with sepsis as to the clinical history of leucocytosis. This fever has been spoken of as a septic fever by Witherspoon, Preble and others. He has satisfied himself that given a case with dry red tongue and the group of symptoms mentioned, very few if any plasmodia will be found and quinin can do no good. That it depends on malarial infection seems hard to dispute; it occurs principally in the early autumn, and when repeated more or less latent malarial infection is apt to have taken place. How sepsis can follow purely malarial infection is not clear. It seems to be a matter of autosepsis due to the possible toxins in the body.

103.—See abstract in THE JOURNAL of September 28, p. 808.
104.—Ibid.
105—Ibid., p. 856.
107.—Ibid., p. 857.
110.—Ibid., p. 855.
111.—Ibid., p. 856.
113.—Ibid.
114.—Ibid., p. 859.
116.—Ibid., p. 858.
117.—Ibid., p. 854.

118.—Ibid., p. 853.

119.—Ibid.

121.—Ibid., p. 855.

123.—**Impoverished Blood.**—The condition of the blood as a cause of insanity is insisted upon by Wherry, who tabulates the averages of examinations of 324 cases including various forms of mental disease which were taken in the order of their admission, and not selected.

139. **Pneumonia.**—Bartle offers his opinion as to the value of bicarbonate of potassium in the early stages of pneumonia, that is, not depending on it exclusively, but in combination with strychnia and proper dietetic treatment and with care as to the bowels. He reports cases in which he found giving .8 gram of bicarbonate in capsules every four hours of value. The result of the treatment is that pneumonia is apparently aborted; the drug relieves congestion by dilating the peripheral vessels, as he holds, and reduces the temperature by alkalinizing the blood. After the stage of consolidation sets in, he does not consider it of much use, but in the first few hours of the disease it has proven to be of great value.

FOREIGN.

British Medical Journal, November 16.

Two Cases of Post-Operative Thrombosis of the Mesenteric Vessels Followed by Death. A. ERNEST MAYLARD.—The author reports two cases, both in females of similar age, in which there was a thrombosis of the mesenteric vessels occurring after an operation; one a case of gastric jejunostomy and the other of excision of one-half of the thyroid gland. The symptoms are discussed and the diagnostic points especially noted. Maylard thinks that the following symptoms occurring within a few days after operation may be taken as suggesting post-operative thrombosis of the mesenteric vessels, and all the more so when the operation is not one involving the intestines. "1. The onset of intra-abdominal pain, gradual or acute, but more or less constant, and possibly of a colicky character. 2. Neither tenderness on palpation of the abdomen, nor distension nor rigidity of the parietes in the earlier stages. 3. Possibly diarrhea with or without blood. 4. Possibly vomiting, but not of the usually acute obstructive character. 5. Rapidity of pulse. 6. Undue and inexplicable restlessness and excitability. 7. Any pre-existing symptoms of cardiac or vascular disease may be considered to attach additional weight to the significance of the other symptoms." He remarks that in searching the literature he has found no record of cases of thrombosis of the mesenteric veins following or dependent on operation.

Removal of Great Lengths of Intestine. ALEXANDER BLAYNEY.—A case in which 8 ft. 4 in. of the ileum were resected is reported and the literature of similar operations reviewed. Several American cases are not included. The most striking feature of the subsequent history of the cases that survived is that whereas some showed symptoms of intestinal disturbance, especially in a tendency to diarrhea, in the one where the greatest length of intestine was removed (Ruggi's) these symptoms were absent. In seven cases which showed subsequent disturbance the length of the intestine removed was over 200 c.c., with two exceptions, one of these being a case of contracted kidney, and in 14 surviving cases, which showed no intestinal disturbance, the length of the intestine removed was under 200 c.c. with one exception and in this case it only exceeded about two inches. Therefore, 200 c.c. seems to be about the danger limit as regards this particular disturbance. Children must be considered as not like adults in this respect, as in Ruggi's case the patient was only a little over 8 years of age. The explanation suggested is that as in animals where no intestinal trouble follows intestinal resection marked hypertrophy of the intestine was found to have taken place; it is easy, therefore, to suppose that such a hypertrophy will occur in undeveloped children sooner than in adults, or possibly Ruggi's case had an abnormally long intestine. If we accept Treves' measurements of 22 ft. 5 in. as the total length of the small intestine and take 200 cm. or 6 ft. 6.5 in. from this, we find that somewhat less than one-third is the limit beyond which we can not safely go in removal, and thus Senn is the most accurate of experimenters as regards his deduction in reference to man, for it was he who asserted that resection of over one-third of the small intestine was likely to be accompanied by strong digestive disturbances probably terminating in death.

After-Care of Cases Operated on for Perforation of the Stomach.—The operation for gastric perforation is like that for strangulated hernia, one for which every physician must be prepared to operate in emergencies; hence, arises the importance of knowledge of its after-treatment. The main questions are those relating to food, position occupied by the patient and aperients. As to food it must be of almost a necessity liquid and such as to require no gastric digestion. For twenty-four hours nothing but water or water containing some substance which is not a food, such as perhaps a little addition to the water in the way of carminatives, a little chloroform water or a little very weak tea without sugar or milk. He thinks milk is probably one of the worst things to be given to invalids. It contains proteids and therefore undergoes digestion in the stomach. This holds good whether it is buttermilk or koumiss. Aerated drinks have moreover the possible objection that the gas may force its way through the wound; though there is little cause to fear this, it is best to be on the safe side. The food should not be too stimulating; meat extracts are therefore inadvisable. Alcoholic drinks are also contra-indicated. The food that best meets the requirements of these cases is in Gilford's opinion grape sugar combined with some flavor. Raisin tea, made by pouring boiling water on one-half its bulk in chopped raisins, stewed for one-half hour and filtered, and next to this decoction of malt; though when given too freely this may produce diarrhea. After these in from one to three days a mixture of cream and water is added to the list and these three preparations may be continued until the end of the first week or longer. Generally, however, he adds a little starchy food to the cream, but such as contains not more than a trace of proteid. It is probable that fresh wounds of the stomach heal as quickly as do those of the face, but it is best not to assume that union is complete until the end of the first week. At the end of the week if the patient has done well solid food may be commenced, such as lunch crackers well chewed and sometimes a little bit of scraped fat from cold soft pork. After a few days the diet is still further varied, but still keeping in mind the foods which undergo intestinal rather than stomach digestion. Repeated rises of temperature and tenderness over the region of the stomach must be regarded as warning for precaution in feeding. The appetite then becomes the safest criterion. The position of the patient should be regulated by physiologic requirements and the position of the ulcer. The supine position on the back is not a good one; as the natural position is more or less on the right side, it is well that the head and shoulders should be well raised. In case of ulcers on the posterior surface the patient should be first placed well over on the right side, and should afterwards assume the sitting-up position or the shoulders be raised and the patient turned slightly to the right. Where the ulcer is low down on the anterior wall it may be then best for the patient to be lying on his back. In the case of ulcers of the lesser curvature the higher the patient can sit up with comfort the better. The passage of liquids over the wound may not be so harmful and may often be an advantage. Plain hot water, peppermint water, or water with a very little carbolic acid added may even be good. Nothing requires more judgment than the use of aperients, and it is well to refrain from irritating the stomach by aperients where there has been a limited peritonitis. Aperient enemas may be used twenty-four hours after operation and repeated if relief is obtained. In some cases where there is no peritonitis and the lower part of the abdomen is out of order it may be necessary to use drugs; of these magnesium sulphate and calomel are probably the best.

Improved Incision in Laparotomy for Prevention of Post-Operative Hernia. ARTHUR H. BUCK.—The causes of

post-operative hernia are first noticed, and the author concludes that division of an aponeurosis without supporting muscle is bad, and the division of the muscle in the direction of the fibers can not be satisfactory if it involves division of the motor nerve fibers unless supported by other uninjured muscle or aponeurosis. He therefore operates by dividing the anterior layer of the sheath of the rectus an inch or more from the inner edge of the muscle, upwards and downwards to the same extent as the skin incision, taking care not to injure the muscle fibers themselves; then enucleation of the muscle from the sheath outwards, division of the posterior sheath, together with transversalis fascia, subperitoneal fat and the peritoneum. As soon as the peritoneum had been incised, the forefinger was introduced and the following structures divided up and down as far as necessary; in the whole length of the incision, the transversalis fascia, subperitoneal fat and peritoneum, and above the level of the fold of Douglas the posterior layers of the muscle sheath. To close the abdomen the above structures can be readily united by a continuous suture, the necessary parts being retracted to help the operator. The rectus is allowed to slide back in its natural position, thereby completely covering the line of suture. The anterior layers of the sheath are united by a similar continuous suture. The suprapubic wound is closed in the usual way. The advantages of this method he thinks are the simplicity, the involvement in the incision of only aponeurotic structures afterwards supported by a strong uninjured muscle, no division of nerves, the improbability of hernia and the great reduction in the period of convalescence.

Journal of Tropical Medicine, November 1.

Beri-Beri and the Heart. ARTHUR STANLEY.—The action of beri-beri on the heart is stated by Stanley, who sums up his conclusions as follows: 1. Beri-beri has a marked degenerative action on the heart muscle, which frequently causes fatal circulatory failure. 2. In this respect beri-beri resembles other toxemic diseases, such as diphtheria, influenza, and alcohol and arsenic poisoning, which often causes peripheral neuritis, and also other toxemic diseases, such as typhoid fever, plague, and acute rheumatism, which do not or rarely give rise to peripheral neuritis. 3. Beri-beri and diphtheria are the diseases par excellence in which sudden fatal heart failure occurs. 4. The heart muscle degeneration is not a secondary result of neuritis of the vagus. 5. The heart muscle degeneration takes place as a rule before skeletal muscle degeneration, and is the result probably of direct action of the toxin, and not a secondary result of nerve change. 6. Sudden heart-failure does not indicate a sudden lesion, but rather is the result of a gradually-increasing heart weakness from cardiac muscle degeneration, which may be precipitated by any sudden exertion, but more frequently is the result of the principle of "all or nothing"—the transition from "all" to nothing being necessarily rapid. 7. The cardiac physical signs in beri-beri closely resemble those found in diphtheria, and are of paramount importance in prognosis and treatment.

The Lancet, November 16.

Impressions About Chloroform and Ether. WILLIAM MITCHELL BANKS.—The author disbelieves in the value of the Hyderabad Commission reports and asks what benefit has been derived from these liberal experiments on dogs and the details that they involve. Indeed, he can not see where experiments on animals has helped us in this matter, but he hopes that no lying antivivisectionist will misconstrue his meaning, for though the experiments did not help, he is glad they have been done to relieve his mind of thinking something was left undone. No charge of cruelty can be made, as the animals simply passed away without pain. The simple and all important keynote is plenty of air and plenty of anesthesia. The speculation as to whether death comes from the heart or lungs by chloroform is not important. We know that chloroform is infinitely the more dangerous in animals, and to a certain point is a depressant as ether is a stimulant. In order to have the student grasp the difference between the action of these two he speaks of their victims as the white man and the blue man. The white man is being poisoned by chloroform and is always in a dangerous way. His heart is working very feebly and at any moment may give out. The blue man ought not to have been allowed to become blue, but still he is not in such straits as the other. If he can get a little air into his lungs it would be very hard to kill him. In his own experience he has only had two deaths, both from chloroform, but the number of hair-breadth escapes is fearful to consider. In the majority of cases, however, the man dying from chloroform does not suddenly collapse; he has been in a dangerous way for some time before, and the anesthetist had not been able to recognize the early signs of danger and avert it in time. There is a kind of anesthetist who drains out his chloroform by the drop and keeps the surgeon in constant hot water, and by the time the anesthesia has been attained the patient has inhaled a large amount of the anesthetic and goes deeply under. There is another kind who seems utterly unaware that he is dealing with a poison that will kill of itself if only enough be given. Some patients take their chloroform very quietly with a somewhat shallow breathing and the anesthetist does not see when the patient is completely under so that he can stop his anesthetic. The great secret is to keep the patient on the balance, just on the point of coming out. It does not matter if he does cry out occasionally, he will not remember anything about it afterwards. Another important matter is the ability of the anesthetist sometimes to recognize whether the patient is breathing fully and freely or only getting into his lungs air filled with chloroform. He can not see the contra-indication of the tongue forceps; if there is any safety by holding the tongue, a little discomfort lasting a few hours afterwards should not be considered. The dangerous time in giving chloroform is the struggling period. Let the patient get a few good gasps of air when taking the anesthetic in these cases and then administer the anesthetic, taking care to follow the movements of the head and he will probably sink quietly and safely back on his pillow. The great dangers of chloroform are: 1. Absolute overdosing of the patient up to the poisoning point when there is no necessity of it. 2. An omission to allow the patient to be constantly and freely getting abundance of air into his lungs. 3. Violent repression during the stage of excitement, combined with the continued dosing of chloroform. A good chloroformist should rapidly appreciate the leading characteristics of his patient and act accordingly. The slightest shade of pallor should be noted and the patient at once revived. The danger is greatest between six and ten minutes from the time the anesthetic is commenced. The anesthetist's eyes should not be taken off the patient's face for a minute; upon the slightest difficulty in breathing the tongue should be instantly brought out. With regard to ether the great point is to keep the larynx free from frothy sticky mucus. The jaws should be forced open with a gag and the mucus swabbed out. Two difficulties about ether are: 1, it is not so easy to take or so easy to give as chloroform, but it ought to be more often used, and 2, as the author says, that in special operations, especially in those of the anus and urethra, it seems impossible to get the muscular action subdued in certain people by ether. In these, chloroform is indicated and is required in the full amount. More people are sick under ether, but when a bad sickness lasting for a long time occurs, chloroform is the cause. Ice and small mustard poultices over the epigastrium seem to do as much good as anything else. In reviving collapsed patients there is but little use in electricity; artificial respiration should be resorted to, and Banks is sure that he has seen good from the subcutaneous injection of ether and strychnia. In ether suffocation, mop out the mucus and not leave the head hang down, but quite the reverse. Failing with other methods he would open the larynx, blow air into the lungs while also using the Sylvester method. There is a small and very simple trick which is an effective means of rousing up a patient from a weak fainting condition if used sufficiently early, namely, rubbing his nose and lips vigorously up and down with a rough

towel, which some of his pupils have come to call a "dry shave." He saw a clever anesthetist keep a most feeble woman safe through a prolonged operation by continuously bringing her to the surface by this means, never allowing her to get faint. As regards administration, he believes in a little stimulant sometimes before anesthetization and insists on absolute silence, and after he has everything quiet he tells the patient to count with him up to 100, beginning to count slowly and then singing the numbers in a drawling tone and then a sort of chant. This seems to lull the patient to sleep. No bronchitic or asthmatic subject should be given ether, and he thinks chloroform the best anesthetic for old people. He always examines the patient's heart before operation, but it is really of no great value, as the real danger comes from dilatation or fatty degeneration, which can not be discovered by the usual perfunctory examination. Valvular disease need not be taken into account. The presence of albumin and sugar in the urine is a matter of importance, not often looked for. If it exists the patient should be treated with the smallest possible amount of anesthesia, and, if possible, local anesthesia used. As regards the safest position, he thinks there is no doubt that the recumbent position on the right side is the best, the upright position the worst; he attributes to this the safety of chloroform in obstetrics. Coroners' inquests with their publication of distressing deaths during anesthesia have caused many deaths in nervous patients. He wishes they could be dispensed with. In conclusion he remarks on the necessity of the teaching of anesthesia, which every student ought to have instead of so much useless biology, anatomy, physiology and materia medica, and a skilled anesthetist in the hospitals attached to the medical school should be the one to teach the students.

Bulletin Medical (Paris), October 5.

The Seashore in Local Tuberculosis in Children. POISSON.—In his address on the Conservative Treatment of Local Tuberculosis, prepared by request for the recent French triennial congress of gynecology and pediatrics, Poisson remarked that when a child is only lightly affected with tuberculosis it recovers spontaneously if taken to the seashore. When local treatment is necessary the seashore is the indispensable adjuvant, and when surgical intervention is required, sea air is the best of all treatment as a preliminary and sequel to the operation. When tuberculosis is certain or merely suspected, the child should be taken to the seashore as soon as possible, and arrangements should be made for a protracted sojourn, long after recovery. Hydrotherapy is useful as a general measure, especially baths of mother-water for glandular affections. Injections of iodoformed ether in case of a suppurating lesion, not communicating with the outer air, will prevent the spontaneous opening of the lesion and dry up the suppuration at its source. About 10 to 20 gm. of 5 per cent. iodoformed ether are sufficient. Camphorated naphthol should be used with great caution. The amount injected should never surpass 1 gm. A good formula is 5 gm. of beta-naphthol and of camphor to 100 gm. of warm distilled and alcoholized water. Ambulatory treatment of the surgical cases is liable to entail a vicious attitude and does not prevent ankylosis. The sclerogenic method of treatment has proved very successful in many cases, especially when preceded by several weeks of immobilization. It is particularly valuable in torpid arthritis and osteo-arthritis. Comby stated that he had witnessed a number of complete cures under the influence of sea air, including the peritoneal and pleuro-peritoneal varieties. Some persons believe that sea air has a tendency to increase the frequency of meningitis, but the statistics at the Pem-Bron sanitarium show no more than the average proportion. Hallopeau reported the prompt cure of ten children with cutaneous or ganglionary tubercular manifestations by the application of potassium permanganate, either in a 50 per cent. solution or in powdered form after scarification.

Osteomyelitis in the Newly-Born. L. D'ASTROS.—In the majority of the eleven cases of osteomyelitis in new-born infants which d'Astros has observed, the femur was the site of the lesion. In several, the lesions were multiple. In one case intra-uterine infection was evident; in 4 spontaneous recovery occurred without suppuration; in one suppuration was observed in one bone but not in the others affected. The lesion assumed a chronic character in 2, one child dying a few months later with pneumonia which had been preceded by spasm of the glottis recurring five to ten times a day for four months. The other chronic case healed after curetting the focus, but rachitis developed later, probably due to the disturbance in the bone marrow due to the early lesion.

October 9.

Diagnosis by Means of the Blood. E. CALMETTE.—Review of all the works on the subject published this year.

Treatment of Eclampsia.—Pinard states that he has seen fatal cases of puerperal eclampsia run their course without a trace of albuminuria. Tarnier said in 1873 that no woman on a milk diet ever has eclampsia, and Pinard's experience fully confirms this view. He has never witnessed any benefit from lavage of the blood. The issue of the eclampsia depends upon the condition of the patient's liver. When eclampsia develops, the noble elements of the liver are destroyed and the resulting hepato-toxemia is not influenced by any obstetric intervention, which is more dangerous than it is useful. Dilatation is especially difficult, owing to the tetanic contractions. The infants born of mothers in eclampsia are degenerates, with incontinence of urine, umbilical hernia, etc., and either die soon or are weaklings. Ollive, on the other hand, proclaims that he has invariably witnessed the disappearance of the eclamptic seizures after venesection followed by transfusion of salt solution, the so-called "lavage of the blood."

Abnormal Presentation a Sign of Degeneracy. R. LARGER.—An abnormal position in the uterus is the result of the abnormal movements of a degenerate fetus. An abnormal fetus assumes an abnormal position or has it forced upon him. Experience shows that in families of degenerates the children born in abnormal presentation differ most from the normal standard, during early childhood at least. It is more than probable that they differed from the normal standard also in the intra-uterine life. Larger mentions as instances of abnormal presentation as a sign of degeneracy, the historic cases of Nero, Richard III and Louis XV. Mechanical conditions may favor an abnormal presentation but they are unable to create it alone. Premature birth is likewise a sign of degeneracy, either physical or moral or both, but there are numerous exceptions to this rule.

Thyroid Medication for Children. AUSSET.—Besides its remarkable efficacy in myxedema, thyroid treatment has accomplished wonders in infantilism, especially in those cases in which the thyroid function has been impaired in consequence of tuberculosis, rachitis or syphilis. The favorable results of thyroid medication in rachitis indicate that the thyroid gland plays a larger part in its production than has been hitherto credited. The benefits derived from the phosphates in rachitis may be due to the fact that they supply what is lacking in the thyroid gland. Arrested development of the sexual organs is another indication for thyroid treatment, and possibly also sclerodermia, hemophilia, chronic rheumatism and tetany dependent upon some functional disorder in the gland. Children are peculiarly susceptible to intoxication from thyroid medication, and consequently it should always be closely supervised, with especial care in respect to the heart and kidneys, commencing with very small doses and frequently suspending. Manufacturers should state on the label whether the extract is derived from young or adult animals and give the date of its preparation and exact amount of fresh gland represented by each tablet.

October 16.

Influence of Vicissitudes on Evolution of Tuberculosis. LANNELONGUE.—Animals submitted to moderate cold and slight variations in temperature after inoculation with tuberculosis did not show any difference in the course of the disease. But abrupt and marked changes in temperature, which had no effect on healthy animals, accelerated the course of the tuberculosis in a remarkable degree. The guinea-pigs in some

of the tests were kept at 38 C. for nine hours and then placed out of doors during spring and summer weather.

Cacodylic Medication in Bronchitis with Asthma. P. GALLOIS.—Fifteen elderly patients with chronic bronchitis accompanied by severe asthma, were remarkably relieved and improved by cacodylic medication. Gallois gave 0.1 gm. of sodium cacodylate three times a day in rum, syrup and water, flavored with peppermint.

Bulletin de la Soc. Med. des Hop. de Paris, October 24.

Toxic Polyneuritis. M. SOUPAULT.—Three women employed in a dye-house in cleaning gloves became affected with a typical, peripheral polyneuritis. Their work consisted in keeping the gloves immersed in the cleansing fluid with one hand while they scrubbed them with the other. The fluid seemed to be a mixture of petroleum ether, gasoline and benzine. A few instances of intoxication from the use of benzine have been recorded, but nothing of the kind has been published in regard to petroleum or its compounds. The benzine used in rubber factories is liable to affect the workers in it. After half an hour they become excited and gay; this is succeeded by a period of depression and finally the subject falls an inert mass. She revives after being carried into the fresh air and rubbed with alcohol. The intoxication subsides in about fifteen minutes and nothing but a severe headache remains. After the first time the workers gradually become accustomed to the benzine as a rule, and remain in the same occupation for seven to eleven years and more. Occasionally an employe has to abandon the work entirely. These accidents are less severe, the purer the benzine that is used, but the large establishments have a special service organized for the care of workwomen thus affected.

Treatment of Syphilitic Myelitis by Intraspinal Injection of Mercury. SCHACHMANN.—In the writer's experience at Bucharest he noticed that cutaneous syphilitic lesions healed more rapidly when in immediate contact with the mercurial application, under a Vigo plaster for instance, than elsewhere, during the course of general mercurial treatment. He conceived the idea that syphilitic lesions of the spinal cord might be favorably influenced by intraspinal injection of the solution of mercury. He reports four cases thus treated, one in detail. This was an old syphilitic with severe primary and secondary manifestations which yielded to mercurial treatment. Later, symptoms of myelitis developed and in spite of vigorous mercurial treatment the patient, a man of 29, was unable to walk without assistance on both sides, knee-jerk exaggerated, spinal trepidation extremely intense, predominating on the left side and causing inability to stand. This was the condition after 30 injections of mercury benzoate, which cured the lumbar and girdle pains but had no effect on the myelitis. He was treated then by injection of 1 c.c. of a 1 per cent. solution of mercury benzoate, the needle inserted into the opening in the last sacral vertebra. The needle was connected with a double bulb which allowed the aspiration of a corresponding amount of cerebrospinal fluid immediately preceding the injection of the mercurial fluid and without removing the needle. After twenty-three of these epidural injections in the course of twenty-five days the patient is able to get out of bed and walk up and down the room alone, erect, without looking at his feet, without much fatigue, always ready to recommence; appetite good; he sleeps sound, has no pain; the sphincters function normally; reflexes normal and very slight trepidation. This improvement could be traced day by day. The first injections caused restlessness, slight rise of temperature and insomnia, but these by-effects had all completely subsided by the fifth injection. They were never severe and consequently Schachmann considers them trifling and that this epidural mercurialization of spinal syphilitic lesions which do not yield to treatment by other measures, is a harmless and most effective method. He suggests that it might prove useful in case of non-syphilitic lesions. Jaboulay has reported a case of syphilitic myelitis which he treated by injecting quite a large amount of potassium iodid into the subarachnoid space. The patient died. Jacob of Leyden's clinic has also reported three similar cases with one improvement. Toulouse found that reducing the amount of salt in the food enhanced the action of potassium iodid in a case of cutaneous syphilitic lesions, resulting in the prompt cure of the hitherto rebellious lesions, but the coincident symptoms of general paralysis were not affected by even this magnified action of the specific treatment.

Bulletin de la Soc. de Pharmacie de Bordeaux, August.

New Method of Integral Destruction of Organic Matters. G. DENIGES.—The oxidizing action of the salts of manganese in a nitric medium has a destructive action on organic matters, and supplemented by the subsequent simultaneous action of sulphuric and nitric acids, will reduce any anatomic specimen in a few hours without the slightest loss of any minerals contained. This method of destruction is peculiarly valuable for forensic research and toxicology in general. It will destroy even the cacodylic molecule. The mixtures are heated in a vessel covered with an inverted glass funnel.

Nord Medical (Lille), November 1.

Intoxication from Thyroid Treatment. G. CARRIÈRE.—Summoned to six different urgent cases of sudden angina pectoris, pulmonary edema or symptoms of acute asystolia, Carrière discovered that each of the patients had been taking thyroid extract to reduce obesity, without the advice of a physician and merely on the recommendation of some druggist or friend. The symptoms in each case were violent and alarming, but the suppression of the thyroid medication banished them completely and permanently.

Progres Medical (Paris), October 26.

Syphilitic Gingivitis Simulating Mercurial Stomatitis. BURET.—Eight and fourteen months after a course of specific treatment, the two syphilitics whose cases are described exhibited a typical gingivitis. The interval had been too long for it to have been due to the preceding mercurial treatment and it was promptly cured by renewal of the treatment, confirming its syphilitic nature.

Revue Hebd. de Laryngologie (Bordeaux), October 26.

Slow Evolution of a Cancer of the Larynx. E. KRAUS.—Schwartz was able to collect 108 cases of cancer of the larynx last spring. The survival averaged two years, and only 2 patients lived for three years and only 1 for four after the tracheotomy required. Kraus removed a tumor in the larynx of a man of 78 which proved to be a lobulated epithelioma of stratified pavement epithelium. It recurred very soon, but under continual administration of Fowler's solution the general health constantly improved and the patient coughed up three pieces of his tumor at different times. The tracheal wound was closed and the patient breathed exclusively through the throat as the remainder of the tumor seemed to shrivel. His voice returned and he was in good health when he died from an intercurrent pneumonia five and one-half years after the tracheotomy. Kraus is inclined to believe that the uninterrupted administration of the arsenic had something to do with the successful resistance of the organism to the epithelioma in this case.

Centralblatt f. d. Grenzgebiete (Jena), October 31.

Relations Between Dupuytren's Contraction and Internal Affections. W. NEUTRA.—In the dozens of works on this subject that have appeared in the last few years some authors describe one thing and others another as Dupuytren's contraction and great uncertainty prevails not only as to the etiology and anatomy but also as to the diagnosis. Trauma seems to be a causal factor only in the predisposed. The disposition is rheumatism or gout according to some opinions, diabetes according to others. A few instances have been reported in which syphilis might have been incriminated. A hereditary predisposition is evidenced by the cases in which Dupuytren's contraction was observed in a family through several generations, although the rheumatic or gouty taint alone may have been the inheritance predisposing to the contracture. Nutritional disturbances from constricting bandages have been noted in certain cases and alcoholism in two. Arteriosclerosis is incrim-

inated by Baehr alone; Anderson considers contraction of the palmar fascia an infectious process. Various kinds of nervous affections have been noted in the etiology, spastic muscular contraction, ulnar neuritis, trophic disturbances due to spinal processes, spastic spinal paralysis, tabes and syringomyelia. The latter has been observed in several cases. The coincidence of the contraction with cerebral affections, progressive paralysis and epilepsy, has also been noted. A number of authors express the opinion that the contraction is the result of trophic disturbances, without specifying the etiology. Similar processes have been observed in horses' feet. Dupuy operated on a horse to cure a contracture of this kind; its recurrence later enhances the resemblance to Dupuytren's contraction. Ledderhose considers it a keloid process, a kind of callus formation. The claw-hand so frequent in syringomyelia is the result of apparently a somewhat similar process, and also the joint affections in tabes and syringomyelia, in which alterations occur in the joint ligaments resembling those in the palmar fascia. Lane and others mention the discovery of similar alterations in the joint ligaments accompanying Dupuytren's contraction.

Deutsche Med. Wochenschrift, November 7.

Differentiation of the Meat of Various Animals by the Biologic Specific Serum Reaction. UHLENHUTH.—The serum of animals previously injected with the specific blood, produces a specific turbidity when added to the serum of the same kind of animal from which the blood was originally derived. This biologic test has proved useful in forensic medicine and Uhlenhuth now proclaims that it is equally effective in differentiating meat from the various animals from which the blood was derived. The research at Loeffler's Institute of Hygiene, which is described in this communication, demonstrated that it was possible by this means to differentiate horse, dog and cat meat, fresh or salted and smoked. Cooking of course coagulates the albumin and renders the test impossible. The dissolving of the meat in water, to make the fluid extract for the tests, can be hastened by adding a little chloroform. The fluid must be filtered perfectly clear.

Functional Test of the Liver. H. STRAUSS.—Alimentary levulosuria is a valuable means of determining a functional disturbance in the liver as announced in the preceding issue, reviewed last week. It is possible that the reason why levulose behaves so differently from its isomere dextrose, in case of pathological conditions in the liver, may be that the organism has some other means of taking care of dextrose outside of the liver, which is not the case for levulose. Frogs deprived of their livers were still able to elaborate glycogen out of dextrose in Sachs' experiments, while no glycogen was formed when levulose alone was administered. Strauss has collected 49 cases of liver affections in addition to his own series of 50 cases, tested for alimentary dextrosuria. The test was positive in only 2 per cent. In most of the tests of alimentary glycosuria that have been published, cane sugar was used, and the probabilities are that the glycosuria observed was predominantly a levulosuria. In 8 personal tests Strauss noted alimentary levulosuria in 4, dextrosuria in 1 and saccharosuria in 1, with negative results in 2. He does not ascribe a primary importance to the liver affection in the pathogenesis of glycosuria and diabetes. He also believes that we overestimate the primary importance of chronic alcoholism in the pathogenesis of diabetes. Transient acute alcoholism may diminish the tolerance for grape sugar, but chronic alcoholism is unable primarily to effect this.

Endoscopy of the Esophagus and Stomach with Flexible Instruments. KELLING.—Mikulicz demonstrated that it is possible to bring the buccal cavity and the esophagus into a straight line. Kelling utilized this suggestion for endoscopy of these organs by inserting a flexible instrument and inflating the esophagus. He has thus visually inspected the esophagus and stomach in 134 patients and been able to formulate a correct diagnosis, absolutely impossible by any other means, except in the cases of strictures and foreign bodies. He has also been successful in inspecting the abdomen by inserting a Nitze cystoscope through an opening made for the purpose with a trocar, inflating the abdomen with filtered air. Kelling demonstrated on a dog the technique of this procedure at the recent Naturforscher congress. He says that it is painless, harmless, and can be done "ambulant."

The Committee for Cancer Research.—Various veterinarians and professors of anatomy reported at the seventh meeting of this committee that they had never seen nor heard of a cancer on a wild animal. Baelz from Tokio stated that cancer was very rare among the Japanese. It could not be a question of climate, as malignant disease was comparatively frequent among the Europeans and other foreigners residing there. The skin of the Japanese is more resistant; secondary syphilitic exanthemata are extremely rare. When cancer occurs it affects the esophagus most frequently, the stomach next. Instances were related of carcinoma in animals, horses, cattle, cats, pigs, rabbits, rats and mice. A case of carcinoma of the liver in a hen has been reported, and of carcinoma of the ovary in other fowls. Cancer is unknown among cold-blooded animals. Horses as a rule have more innocent tumors than other animals, most frequently sarcoma and melanosarcoma. Schuetz states that he has never seen the latter kind of a tumor in cattle, but round-celled sarcomata are frequent. He suggests the possibility of a single parasite for these various tumors and that it develops differently on different animals. No evidence has been presented to date which excludes the possibility that malignant disease is caused by a single agent.

Muenchener Med. Wochenschrift, November 5.

Tardy Meningitis After Injury to the Skull. K. FUJISAWA.—A child of 10 fell from a second story, injuring the left temporal bone with consequent vomiting, convulsions and loss of consciousness, but apparently recovered completely. A year later meningitis developed and at the autopsy an old traumatic encephalitic focus of yellow softening was discovered which had evidently existed without causing symptoms. The base of the brain had been fractured at the time of the traumatism and, over a year later, infection by pyogenic micro-organisms through this fissure, induced the meningitis.

Neuritis Caused by Occupation. L. HOEFLMAYER.—A professional neurosis usually develops on a neuropathic basis, but the neuritis in the cases described occurred in robust men, compelled to use the right arm in planing or polishing, etc. It affected the region of the brachial plexus and simulated rheumatism in the shoulder and arm, most severe at night, and induced by certain movements of the arm. Antirheumatic remedies had no effect and there were no signs of myositis. The pains and tenderness on pressure were localized at the points where the nerves involved were accessible. All recovered after treatment by rest, heat and galvanization. Application of leeches to the most sensitive points also proved useful in some cases. Quinin and phenacetin relieved the pains at night and rendered morphin unnecessary. The neuritis was cured in the course of eight or nine weeks, but the patients were advised to seek some other occupation for the following six to twelve months.

Treatment of Osteomalacia by Castration. EBERHART.—Up to the present time no process in the ovary has been discovered typical and specific for osteomalacia, and yet there is evidently some connection between the organ and the disease. Castration has been successful in 83.1 per cent. of the cases in which it has been applied. It should always be preceded by phosphorus treatment, and be considered the last resort. The peculiar pains, the gait and the weakness of the iliac psoas are early signs of the affection. Recurrence has been known as late as seven years after castration.

Diagnosis of Fetal Syphilis. HECKER.—Out of 62 fetuses histologically examined by Hecker, only 26 per cent. proved to be exempt from syphilis and 53 per cent. were unmistakably syphilitic. Nearly half of the latter number had been recognized as syphilitic at the autopsy, but the other 29 per cent. showed no clinical nor anatomic syphilitic manifesta-

tion, and yet the microscope revealed typical syphilitic lesions. The kidney was affected in 90 per cent. of the cases, as disclosed by the microscope. Macroscopically, the spleen and bones were most frequently involved. The kidney is the easiest to examine, as the nuclei take the stain well after maceration, which is not the case with the liver. Cellular infiltration of the smallest cortical arteries is evidently the first stage of interstitial inflammation in these cases. Another certain sign easy to recognize and comparatively frequent, is the infiltration of the larger vessels in the spleen and interstitial inflammation of the thymus. Microscopic examination of the fetus may often prove necessary to determine the existence of syphilis in the family.

Bactericidal Action of Fluorescent Substances. TAPPEINER.—THE JOURNAL has mentioned Raab's discovery that certain fluorescent substances have a marked bactericidal action when exposed to the light, but not in the dark. It seems to be connected in some way with the property of fluorescence. Tappeiner reports further experiments in this line which show that fluorescing acridin and chinolin red, etc., will kill ciliated epithelium from the frog in two-thirds of an hour, while in the dark the epithelium lives for one and one-half to six and one-quarter hours. Frogs were injected with eosin and kept for two to four days in the dark. Fragments of their stained epithelium retained their vitality for more than twenty-four hours in the dark, while they died in a few hours after exposure to the light. Tests with cultures on media that had been mixed with a fluorescent substance, showed that the bacteria flourished when they were kept in the dark but development was arrested when the culture was exposed to the light. Tests with frogs and mice injected with fluorescent substances are now under way and will be reported later. They have already shown that the empty skull of a freshly killed frog allows the passage of the light so as to kill a 1 to 1000 culture of paramecium in a solution of eosin in seventy-five minutes, while similar cultures lived four hours and more when kept in the dark. Glass tubes filled with a 1 to 4000 eosin culture of the paramecium or a 1 to 20,000 acridin culture were introduced under the skin of guinea-pigs exposed to the sun. The paramecium died in one hour under these conditions. The skull of the frog and the skin of the guinea-pig therefore allow the light to pass through them enough to induce fluorescence with its consequent bactericidal action. In all the tests the sunlight was filtered through a solution of copper vitriol to exclude the heat rays.

Wiener Klin. Wochenschrift, November 7.

Remarkable Effect of Electricity in Chloroform Narcosis. S. JELLINEK.—If an electric current of high tension is sent through a rabbit, with the electrodes in the throat and rectum, it is either killed at once, paralyzed or injured in some way so that it does not long survive. Jellinek has found, however, that the effect is different when the rabbit is in chloroform narcosis. It is merely aroused immediately from the profound anesthesia, and no injurious after-effects could be discovered in any of the tests. When the anesthetized rabbit has ceased to respond to external stimuli of any kind, the application of the alternating current for the fraction of a second will revive it and the animal springs up, rolls over and jumps around, with consciousness completely restored. The control animal either dies in the deep narcosis or recovers consciousness after a comparatively long interval. None of the rabbits aroused by the electricity exhibited any pathological symptoms or lesions at any time afterward that could be ascribed to the electricity.

Cataract in Diagnosis of Diabetes. S. KLEIN.—Posterior polar and cortical cataract usually accompanies pigmented retinitis. When it occurs alone and no affection of the choroid can be discovered, it is an invariable sign of some disturbance in the metabolism. In Klein's experience this disturbance has always proved to be diabetes, and he has thus been enabled to diagnose diabetes at an early stage when no other symptoms indicated its existence. The disturbances in the current inside the lens, which are the cause of cataract formation in diabetes, must be quite different in their nature from those causing senile involution and cataract in the absence of a choroid affection or known anomaly in metabolism. Choroid cataract is in itself a complicated cataract and its foundation on some disturbance in the metabolism explains the unfavorable result of attempts to operate in such cases. Of course diabetes may develop later in a person with a senile cataract or vice versa, but posterior polar combined with posterior cortical cataract is characteristic of diabetes.

Acute Iodism Simulating Mumps. K. FUERTH.—Regulation doses of potassium iodid were prescribed for a healthy woman of 52 on account of some eye trouble. After a few weeks a syndrome developed compelling the diagnosis of mumps. It subsided on the suspension of the iodid but recurred a few weeks later with the same fulminating intensity after a single dose.

Grece Medicale (Syra), September.

Discovery of the Tomb of Esculapius. J. SVORONOS.—Twenty years ago the excavations at Epidaurus revealed a very beautiful temple with a subterranean labyrinth with no entrance. Archeologists were unable to determine the purpose of the building nor to whom it had been dedicated if really a temple. The building was distinguished by a dome, but no reference could be found to it in any writings. Svoronos believes that he has solved the mystery and that the structure is the tomb of Esculapius. He has found a coin of Epidaurus with a representation of the temple surmounted by a statue of the goddess Hygeia. Similar subterranean labyrinths found in other temples and in Egypt were always tombs. When heroes were deified the priests kept their burial place a secret, and this probably occurred in the case of Esculapius, who was buried here and the ornate temple was erected to his honor after he had been made a god. These assumptions have been confirmed by Svoronos' recent discovery of a work by Rouphinos, who lived in the fifth century, at a time when Christianity was dispelling the old traditions in regard to mythology. He describes the temple of Esculapius at Epidaurus and mentions the dome and the statue of Hygeia.

Vratch (St. Petersburg), November 2.

Influence of Metals on Blood. ILYASHEFF.—The conclusions of extensive clinical and experimental research are summarized by Ilyasheff in the announcement that salts of the heavy metals, copper, mercury and manganese, administered in small amounts by the mouth, have no appreciable influence on the amount of hemoglobin or on the number of the reds. Salts of iron, however, under the same conditions always have a marked effect in increasing the number of reds and the amount of hemoglobin. It is evident that iron not only stimulates the functions of the blood producing organs, but directly aids in the production of hemoglobin. The influence of the iron is first manifested in the increased number of red corpuscles; the increase in the hemoglobin is a later phenomenon. The eosinophile cells also increase to a remarkable proportion under the influence of iron. This is not observed in animals nor in other conditions in man. The eosin granules contain iron and apparently in a stable organic combination, as they give the iron reaction with ammonium sulphate only after twelve to twenty-four hours.

Cronica Med. Mexicana, November.

Ether to Control the Pain in Burns. B. BELTRAN.—pain of an extensive burn of the second degree vanished in thirty seconds by the clock after the burned part had been wrapped in cotton and enough ether poured on the cotton to thoroughly impregnate it. Even after the ether had all evaporated, the pain did not reappear. This experience was repeated in another case, and Beltran calls attention to this method of permanently relieving the pain in such cases.

Nordiskt Med. Arkiv (Stockholm), October 26.

Defect in the Septum of the Heart. A. JOSEFSON.—A man 24 years of age was brought moribund to the hospital with staphylococcus septicemia. Certain symptoms indicated

ulcerative endocarditis and a mitral defect. At the autopsy an opening 5 by 3.5 cm. in size was found in the septum between the two sides of the heart. The diameter of the lumen of the pulmonary artery was normal. The defect was evidently congenital. The rear mitral valve-flap was slit; Rokitansky noticed a similar slit in 5 out of 24 cases of a defect in the septum. The wall of the right ventricle was remarkably thick but otherwise normal. The patient had never been very strong, but had for years satisfactorily filled a position as gardener, requiring much hard work. He had no rheumatic nor infectious antecedents and the family was healthy. He had never exhibited cyanosis and no one had suspected any heart trouble, although he complained occasionally of shortness of breath. Josefson has been able to find only six cases in the literature of pure septum defect, and in all of these there was some alteration in the pulmonary artery. All were men between 32 and 45. In the rare cases of direct communication between the aorta and the pulmonary artery the patients all die young.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other Than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Volume III—Climatology. Health Resorts, Mineral Springs. By F. Parkes Weber, M.A., M.D., F.R.C.P. (Lond.), Physician to the German Hospital, Dalston; With the Collaboration for America of Guy Hinsdale, A.M., M.D., Secretary of the American Climatological Association, etc. In Two Books. Book I—Principles of Climatotherapy—Ocean Voyages—Mediterranean, European and British Health Resorts. Book II—Mineral Springs, Therapeutics, etc. Illustrated with Maps. Pp. 336-420. Price for the complete set, $22.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D. Philadelphia; John B. Murphy, M.D., Chicago; Alexander D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M.D., Philadelphia; Charles H. Reed, M.D., Philadelphia; J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London. Volume III. Eleventh Series, 1901. Cloth. Pp. 303. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1901.

ATLAS AND PRINCIPLES OF BACTERIOLOGY and Text-Book of Special Bacteriologic Diagnosis. By Prof. Dr. K. B. Lehmann, Director of the Hygienic Institute in Wurzburg, and R. O. Neumann, Dr. Phil. and Med., Assistant in the Hygienic Institute in Wurzburg. Authorized Translation from the Second Enlarged and Revised German Edition. Edited by George H. Weaver, M.D., Assistant Professor of Pathology, Rush Medical College, Chicago. Parts I and II. With 632 Figures on 69 Lithographic Plates. Cloth. Pp. 511. Price, $2.50 per volume. Philadelphia and London: W. B. Saunders & Co. 1901.

DISEASES OF THE INTESTINES. Their Special Pathology, Diagnosis and Treatment, with Sections on Anatomy and Physiology, Microscopic and Chemic Examination of the Intestinal Contents, Secretion, Feces, and Urine, Intestinal Bacteria and Parasites; Surgery of the Intestines; Dietetics, Diseases of the Rectum, etc. By John C. Hemmeter, M.D., Ph.D., Professor in the Medical Department of the University of Maryland. In Two Volumes. Vol. I. With Many Illustrations, Some of Which Are in Colors. Cloth. Pp. 742. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1901.

A TREATISE ON SURGERY. By American Authors for Students and Practitioners of Surgery and Medicine. Edited by Roswell Park, A.M., M.D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo. Third Edition, Enlarged and Thoroughly Revised. With 692 Engravings and 64 Full-page Plates in Colors and Monochrome. Cloth. Pp. 1408. Price, $7.00 net. New York and Philadelphia: Lea Brothers & Co. 1901.

A MANUAL OF VOLUMETRIC ANALYSIS. Treating on the subjects of Indicators, Test-Papers, Alkalimetry, Acidimetry, Analysis by Oxidation and Reduction, Iodometry, Assay Processes for Drugs with the Titrimetric Estimation of Alkaloids, Estimation of Phenol, Sugar; Tables of Atomic and Molecular Weights. By Virgil Coblentz, Ph.D., Pharm.D., F.C.S., Professor of Chemistry in the New York College of Pharmacy. Illustrated. Cloth. Pp. 181. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1901.

TYPHOID AND TYPHUS FEVERS. American Edition of Nothnagel's Encyclopedia. By Dr. H. Curschmann, of Leipzig. Edited, with additions, by William Osler, M.D., Professor of the Principles and Practice of Medicine, Johns Hopkins University. Handsome octavo of 646 pages, illustrated, including a number of valuable temperance charts and two full-page colored plates. Cloth, $5.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume III. Illustrated by Chromolithographs and 676 Half-tone and Wood Engravings. Cloth. Pp. 861. Price, $7.00 per volume. New York: William Wood & Co. 1901.

A TEXT-BOOK OF PHARMACOLOGY and Some Allied Sciences. (Therapeutics, Materia Medica, Pharmacy, Prescription-Writing, Toxicology, etc.) By Torald Sollmann, M.D., Assistant Professor of Pharmacology and Materia Medica in the Medical Department of Western Reserve University, Cleveland, Ohio. Illustrated. Cloth. Pp. 894. Price, $3.75 net. Philadelphia and London; W. B. Saunders & Co. 1901.

A TEXT-BOOK OF MEDICINE. Begun by the late Charles Hilton Fagge, M.D., F.R.C.P., Sometime Physician to Guy's Hospital. Completed after his death and since revised or re-written by Philip Henry Pye-Smith, M.D., F.R.S., Fellow of the Royal College of Physicians. Fourth Edition. In Two Volumes. Vol. I. Cloth. Pp. 1123. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

AN AMERICAN TEXT-BOOK OF PATHOLOGY. Edited by Ludvig Hektoen, M.D., Professor of Pathology, Rush Medical College, Chicago; and David Riesman, M.D., Professor of Clinical Medicine, Philadelphia Polyclinic. Handsome imperial octavo of 1245 pages, 443 illustrations, 66 of them in colors. Cloth, Price, $7.50. Philadelphia and London: W. B. Saunders & Co., 1901.

"FIRST-AID" to the Injured and Sick. An Ambulance Handbook. By F. J. Warwick, B.A., M.B., Cantab., M.R.C.S., L.S.A., Associate of King's College, London, and A. C. Tunstall, M.D., F.R.C.S. Ed., Surgeon-Captain Commanding the East London Volunteer Brigade Bearer Company. Cloth. Pp. 232. Price, $1.00. Philadelphia and London: W. B. Saunders & Co. 1901.

THE SURGICAL TREATMENT OF DISFIGUREMENTS AND DEFORMITIES OF THE FACE. By John B. Roberts, A.M., M.D., Professor of Surgery in the Philadelphia Polyclinic, Second Edition, with a Chapter on the Reconstruction of Syphilitic Noses. Illustrated with 62 Figures. Cloth. Pp. 72. Philadelphia: The Philadelphia Medical Publishing Co. 1901.

"OUR ACCURSED SPELLING." What to Do with It. Max Mueller, LL.D.; Wm. D. Whitney, LL.D., L.H.D.; S. S. Haldemann, LL.D., L.H.D.; Francis L. March, LL.D., L.H.D.; Wm. T. Harris, LL.D.; Hon. Joseph Medill, and T. R. Lounsbury, LL.D. Paper. Pp. 142. Price, $0.25. Edited and Published by E. O. Vaille, Oak Park, Chicago.

A LABORATORY HAND-BOOK OF URINE ANALYSIS AND PHYSIOLOGICAL CHEMISTRY. By Charles G. L. Wolf, B.A., M.D., Instructor in Physiological Chemistry, Cornell University Medical College, New York. Illustrated. Cloth. Pp. 203. Price, $1.25. Philadelphia and London: W. B. Saunders & Co. 1901.

TRANSACTIONS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION. Thirty-fourth Annual Session, held at Jackson, April 8, 9 and 10, 1901. With the Roll of Members and Reports on Medical Topics. Cloth. Pp. 264. Published by the Association. Oxford, Miss.: Globe Printing Office. 1901.

STUDIES OF THE INTERNAL ANATOMY OF THE FACE. By M. H. Cryer, M.D., D.D.S., Professor of Oral Surgery, Department of Dentistry of the University of Pennsylvania. Cloth. Pp. 176. Price, $1.50 net. Philadelphia: The S. S. White Dental Mfg. Co 1901.

TWENTY-EIGHTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN for the Fiscal Year Ending June 30, 1900. Cloth. Pp. 272. Lansing, Mich.: Wynkoop, Hallenbeck, Crawford Co. 1901.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, U. S. A. Authors and Subjects. Second Series. Vol. VI. G—Hernette. Cloth. Pp. 1051. Washington: Government Printing Office. 1901.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY for the Year 1901. Volume XXV. Cloth. Pp. 575. Detroit: Published by the Society. 1901.

TRANSACTIONS OF THE RHODE ISLAND MEDICAL SOCIETY, 1900. Vol. VI, Part II. Paper. Pp. 277. Providence: Snow & Farnham. 1901.

TRANSACTIONS OF THE MAINE MEDICAL ASSOCIATION, 1901. Vol. XIV. Part I. Paper. Pp. 222. Portland: Stephen Berry. 1901.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 14 to 20, 1901, inclusive:

Robert A. Anderson, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States.

Bailey K. Ashford, lieutenant and asst.-surgeon, U. S. A., from Fort Slocum, N. Y., to Havana, Cuba, for assignment in the Department of Cuba.

David Baker, lieutenant and asst.-surgeon, U. S. A., is relieved from duty on the transport *Meade*, and from the Division of the Philippines, to proceed to Fort Slocum, N. Y., for duty at that post.

George E. Bushnell, major and surgeon, U. S. A., member of a board at Denver, Colo., to determine the fitness of certain persons for appointment in the U. S. Army.

Charles B. Byrne, lieut.-col., deputy surgeon-general, member of a board in St. Paul, Minn., to determine the fitness of officers of the Army for promotion.

Walter C. Chidester, lieutenant and asst.-surgeon, Vols., honorably discharged as a captain and asst.-surgeon, Vols., of date Nov. 1, 1901.

Harvey A. Eberle, captain and asst.-surgeon, Vols., from duty at Fort Totten, N. Y., to accompany troops to be sent to the Philippine Islands on the transport *Crook*, to sail from New York City, N. Y., about December 1, 1901.

William J. Enders, contract surgeon, now at Philadelphia, Pa., to proceed to Fort Delaware, Del., for post duty.

Clyde S. Ford, lieutenant and asst.-surgeon, U. S. A., having reported to the Surgeon-General, as required by previous orders, is assigned to duty at the General Hospital, Washington Barracks, D. C.

John D. Hall, lieut.-col., deputy surgeon-general, leave of absence for one month granted.

Luther S. Harvey, captain and asst.-surgeon, Vols., leave of absence for one month granted, with permission to apply for an extension of twenty-five days.

Frank R. Keefer, captain and asst.-surgeon, U. S. A., member of an examining board at Fort Monroe, Va., vice Lieut.-Col. Robert M. O'Reilly, deputy surgeon-general, relieved.

John S. Kulp, captain and asst.-surgeon, U. S. A., from New York City, N. Y., to San Francisco, Cal., for duty as post surgeon at that place.

William C. LeCompte, contract surgeon, from Fort Niagara, N. Y., to San Francisco, Cal., for duty with troops en route to Manila, P. I., for subsequent assignment in the Division of the Philippines.

Robert W. Morgan, contract dental surgeon, leave of absence on certificates of sickness extended two months.

Edward R. Morris, major and surgeon, U. S. A., relieved from duty in the Department of the Lakes, to proceed to San Francisco, Cal., for duty at the model camp to be established on Angel Island, San Francisco, Cal.

Edward B. Moseley, major and surgeon, U. S. A., member of a board at Denver, Colo., to determine the fitness of certain persons for appointment in the U. S. A.

Elbert E. Persons, lieutenant and asst.-surgeon, U. S. A., member of a board in St. Paul, Minn., to determine the fitness of officers of the Army for promotion.

Henry I. Raymond, major and surgeon, U. S. A., previous orders amended so as to direct him to report to the commanding officer of troops to be sent to the Philippine Islands on the transport *Buford*, to sail from New York City, on or about Jan. 15, 1902, and on arrival at Manila, P. I., to report for assignment in the Division of the Philippines.

Ira A. Shimer, lieutenant and asst.-surgeon, U. S. A., from duty in the Department of Cuba, to post duty at Fort Niagara, N. Y.

Henry D. Snyder, captain and asst.-surgeon, U. S. A., from duty in the Division of the Philippines to New York City, to enter upon duty as attending surgeon and examiner of recruits in that city.

Benjamin L. Ten Eyck, captain and asst.-surgeon, U. S. A., now on sick leave, is relieved from duty in the Department of the East and will proceed to Fort Wayne, Mich., for duty.

William H. Wilson, captain and asst.-surgeon, U. S. A., is relieved from duty in the Department of California to report for transportation to the Philippine Islands for service in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ended Nov. 23, 1901:

Surgeon L. L. von Wedekind, ordered to the *Cincinnati*, December 2.

Medical Inspector L. G. Heneberger, commissioned medical inspector from Oct. 29, 1901.

P. A. Surgeon H. H. Haas, commissioned P. A. surgeon from Dec. 28, 1900.

Surgeon H. L. Law, retired, additional duty as examining surgeon at Marine-Recruiting Station, Buffalo, N. Y.

P. A. Surgeon H. D. Wilson, detached from Naval Hospital, Norfolk, Va., ordered home and granted three months' sick leave.

The leave granted Surgeon John W. Ross, U. S. Navy, retired, is extended one month. From Circular Letter, Department of Cuba, dated November 11.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the fourteen days ended November 14, 1901:

Surgeon A. H. Glennan, granted leave of absence for one month from November 16.

Surgeon L. L. Williams, granted leave of absence for three days.

Surgeon G. N. Magruder, granted leave of absence for fifteen days from November 15.

Asst.-Surgeon John McMullen, granted four days' extension of leave of absence, Nov. 2, 1901. Upon being relieved by Asst.-Surgeon C. C. Pierce, to proceed to Baltimore, Md., and report to the medical officer in command for duty and assignment to quarters.

Asst.-Surgeon H. C. Russell, granted leave of absence for two days.

Asst.-Surgeon Dunlop Moore, granted leave of absence for six days.

Asst.-Surgeon C. C. Pierce, relieved from duty at Key West, Fla., and directed to proceed to Mullet Key Quarantine and assume command of the service, relieving Asst.-Surgeon John McMullen.

Hospital Steward G. H. Brock, upon being relieved by Hospital Steward Edward Rogers, to proceed to Detroit, Mich., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward Edward Rogers, relieved from duty at Detroit, Mich., and directed to proceed to Cincinnati, Ohio, and report to medical officer in command for duty and assignment to quarters, relieving Hospital Steward G. H. Brock.

A. A. Surgeon Jay Tuttle, department letter of Oct. 4, 1901, granting A. A. Surgeon Tuttle leave of absence for thirty days, revoked.

Hospital Steward and Chemist Henry Gahn, granted leave of absence for twenty days from November 11.

Hospital Steward G. H. Brock, granted leave of absence for four days from November 12.

Hospital Steward S. W. Richardson, relieved from duty in connection with the Pan-American Exposition, and directed to report to medical officer in command at Buffalo, N. Y., for temporary duty.

Hospital Steward E. B. Scott, relieved from duty at Washington, D. C., and directed to proceed to Baltimore, Md., and report to medical officer in command for duty and assignment to quarters, relieving Hospital Steward F. A. Southard.

Hospital Steward H. R. Mason, upon expiration of leave of absence, to report to medical officer in command at San Francisco, Cal., for duty and assignment to quarters.

Hospital Steward F. A. Southard, upon being relieved by Hospital Steward E. B. Scott, to proceed to New York City, and report to medical officer in command for duty and assignment to quarters.

Hospital Steward M. H. Waters, relieved from duty at Washington, D. C., and directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters.

P. A. Surgeon M. J. Rosenau, detailed to represent the service at meeting of the New York State Association of Railroad Surgeons at New York City, November 16 and 17.

P. A. Surgeon H. S. Cumming, granted extension of leave of absence on account of sickness for thirty days from October 30.

P. A. Surgeon J. B. Greene, granted leave of absence for twenty-one days from November 23.

Asst.-Surgeon H. G. Russell, bureau letter of November 2, granting Asst.-Surgeon Russell leave of absence for two days, amended so that said leave shall be for seven days.

Asst.-Surgeon F. J. Thornbury, to proceed to Port Townsend, Wash., and report to medical officer in command for temporary duty.

Asst.-Surgeon Dunlop Moore, to proceed to Honolulu, H. I., and report to medical officer in command for duty.

Asst.-Surgeon J. M. Holt, relieved from duty at Chicago, Ill., and temporary duty at Cairo, Ill., and directed to proceed to St. Louis, Mo., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at Honolulu, H. I., and directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters.

A. A. Surgeon V. B. Gregory, granted leave of absence for seven days from November 12.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Nov. 23, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 3-10, 1 case.
Illinois: Chicago, Nov. 9-16, 1 case.
Indiana: Evansville, Nov. 9-16, 2 cases.
Kansas: Wichita, Nov. 9-16, 5 cases.
Kentucky: Lexington, Nov. 9-16, 2 cases.
Louisiana: New Orleans, Nov. 9-16, 4 cases, 1 death.
Massachusetts: Boston, Nov. 9-16, 28 cases, 3 deaths.
Michigan: Grand Rapids, Nov. 9-16, 1 case.
Nebraska: Omaha, Nov. 9-16, 4 cases.
New Jersey: Camden, Nov. 9-16, 1 case; Newark, Nov. 9-16, 18 cases, 1 death; Passaic, Nov. 9-16, 3 cases.
New York: New York, Oct. 9-16, 8 cases, 3 deaths.
Ohio: Cincinnati, Nov. 8-15, 1 case; Zanesville, Sept. 3-Oct. 3, 1 case.
Pennsylvania: Lebanon, Nov. 3-17, 6 cases; Norristown, Nov. 9-16, 16 cases; Philadelphia, Nov. 9-16, 50 cases, 12 deaths.
Rhode Island: Newport, Nov. 9-16, 2 cases.
Vermont: Burlington, Nov. 9-16, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Oct. 26-Nov. 2, 2 cases.
Belgium: Ghent, Oct. 19-Nov. 2, 7 deaths.
Brazil: Rio de Janeiro, Oct. 12-19, 50 deaths.
Canada: Quebec, Nov. 9-16, 41 cases; St. John, Nov. 9-16, 4 cases.
Colombia: Cartagena, Oct. 19-Nov. 2, 7 cases, 7 deaths; Panama, Oct. 29-Nov. 5, 100 cases.
France: Paris, Oct. 19-Nov. 2, 9 deaths.
Great Britain: Glasgow, Nov. 1-8, 1 case; Liverpool, Oct. 19-26, 1 death; London, Oct. 26, Nov. 2, 464 cases, 14 deaths.
India: Madras, Oct. 12-18, 1 death.
Italy: Naples, Oct. 26-Nov. 2, 28 cases, 1 death.
Nova Scotia: Halifax, Nov. 9-16, 6 cases.
Russia: Moscow, Oct. 19-26, 2 cases, 2 deaths; Odessa, Oct. 26-Nov. 2, 2 deaths; Warsaw, Oct. 12-19, 2 deaths.
Spain: Corunna, Oct. 26-Nov. 2, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Oct. 13-20, 3 deaths.
Mexico: Vera Cruz, Nov. 2-9, 24 cases, 10 deaths.
West Indies: Curacao, Oct. 26-Nov. 2, 2 cases, 1 death.

CHOLERA.

India: Bombay, Oct. 18-22, 4 deaths; Karachi, Oct. 12-18, 60 deaths.
Straits Settlements: Singapore, Sept. 28-Oct. 5, 2 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Nov. 4, 1 case, 1 death.

PLAGUE—FOREIGN AND INSULAR.

Philippine Islands: Manila, Sept. 14, 3 cases.
Africa: Cape Colony, Oct. 12-19, 4 deaths.
Brazil: Rio de Janeiro, Oct. 13-20, 15 deaths.
China: Hongkong, Oct. 7, 3 cases, 2 deaths.
Great Britain: Glasgow, Nov. 8, 3 cases, 2 deaths; Liverpool, Oct. 19-26, 5 cases, 2 deaths.
India: Bombay, Oct. 15-22, 179 deaths; Karachi, Oct. 13-23, 23 cases, 15 deaths.
Mauritius: Oct. 24, 71 cases, 37 deaths.